East Coast Chemical

Disposal, Inc

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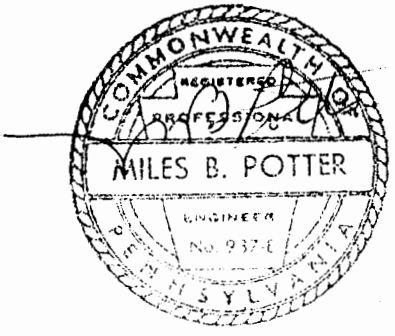
EAST COAST CHEMICAL
DISPOSAL, INC.
Marcus Hook, Delaware County
Pennsylvania

RCRA PERMIT APPLICATION
for
Hazardous Waste
Part B.
Storage and Treatment
40 CFR Parts 122, 264 - thru 265

Project No. 3100-0001.5

November, 1982



Prepared by

Municipal Environmental Associates, Inc.
908 Bethlehem Pike · Finore Building
Spring House, Pennsylvania

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PREFACE

East Coast Chemical Disposal, Inc. of Marcus Hook, Delaware County, Pennsylvania is submitting this Application based on the Authority of Sections 1006, 2002(a), 3004 and 3005 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 and as amended by 42 U.S.C. 6905, 6912(a), 6924 and 6925.

Subtitle "C" of RCRA creates a "cradle-to-the-grave" management system assuring that hazardous waste is safely stored, treated or disposed.

East Coast Chemical Disposal, Inc. proposes to store and treat hazardous waste by complying with standards that "may be necessary to protect human health and the environment."

Standards are stated in Parts 260 thru 265 and parts 122 and 125.

East Coast Chemical Disposal, Inc. services many types of industry by collecting soiled solvents and spent chemicals for proper storage and treatment. Some of the soiled solvents are transported to a Resource Recovery Facility for conversion to a usable product.

Industries depend on the services of this firm for proper management of their soiled solvents and spent chemicals.

PART 122

EPA ADMINISTERED PERMIT PROGRAMS:

THE HAZARDOUS WASTE PERMIT PROGRAM

122.25(a) General Information Requirements

1. East Coast Chemical Disposal, Inc. will operate in a fully enclosed 37,400 square foot facility. ECCD will receive or will transport hazardous waste in containers (drums) and by bulk (tankers) from generators of these wastes and to its facility for storage, treatment and disposal.

   At startup, soiled solvents will be transported to Resource Recovery Facilities for conversion to a usable product. Treatment of spent chemicals at this facility will be by neutralization and solidification by addition of acids, alkalines, fly ash, vermiculite, etc.

2. Chemical and Physical Analysis
   See Subpart B - 265.13.

3. Waste Analysis Plan
   See Subpart B - 265.13.

4. Description of Security Procedures
   See Subpart B - 265.14.

5. General Inspection Schedule
   See Subpart B - 265.15.

6. Request for Wavers
   N/A

7. Copy of Contingency Plan
   See Subpart D.

8. Description of Procedures, Structures or Equipment
   See Subpart C - 265.31, 265.32.

9. Precaution Descriptions
   See Subpart I - 265.176, 265.177, 265.198 and 265.199.

10. Traffic Pattern
    The purpose of the Facility Traffic Control Plan is to maintain a smooth flow of traffic throughout the facility. This will be achieved primarily by efficient layout of driveway and aisles, and secondly,

with adequate control signs posted in appropriate locations. Speed limit on the driveway and turn-around will be 5 mph.

Three (3) types of vehicles will be present at the facility: passenger cars, forklift trucks, truck tractors pulling tankers or vans.

Passenger cars will be used by employees and visitors and will park in front of the facility building - maximum of three (3) at any one time.

Forklift Trucks

Forklift trucks will be used to transport containers to and from storage areas - all within the enclosed facility (building).

At this time and in the foreseeable future, the estimated maximum number of complete trips the forklifts will make along the aisles will be 160 in sixteen (16) hours. One forklift truck will be sufficient.

Tankers and Vans

Since this is a relatively small operation, one tanker and one van are in use. Each will probably leave and return to the facility once each day. For the present time, tankers will accept soiled solvents from the generator and transport those solvents to a Resource Recovery Facility for conversion to a usable product. The van will transport containers from the generators to the facility for storage, treatment and disposal. Disposal will be to a certified disposal area.

At this facility, we will maintain aisle space to allow unobstructed movement of personnel with fire protection equipment to any area of the facility in an emergency.

Drum storage areas are the only location where hazardous waste will be stored in containers. Main aisles will be at least eight (8) feet wide and stacking aisles at least four (4) feet wide.

II. Facility Location Information

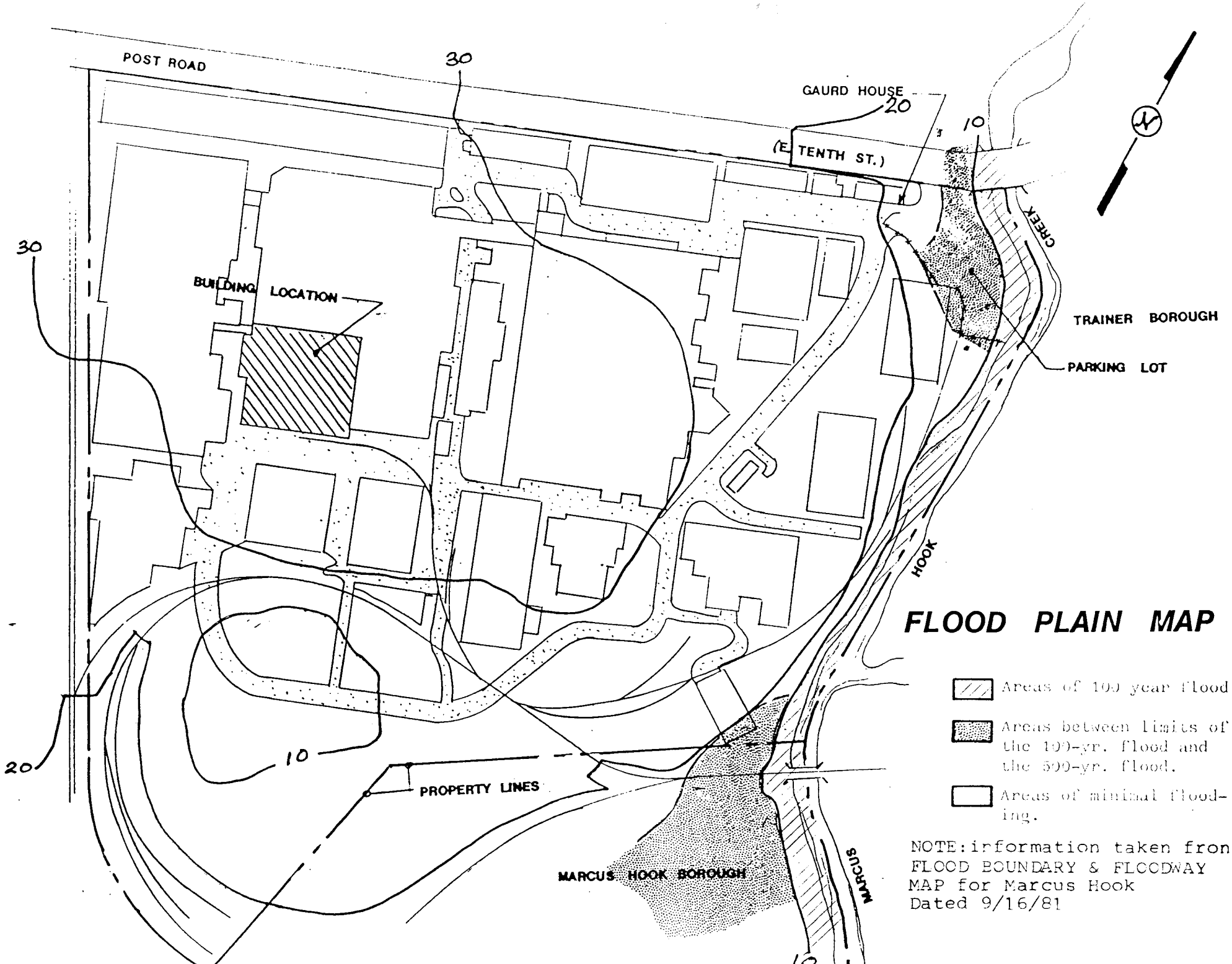
(i) The geographic location of this facility is found at latitude 39°47'06" and longitude 75°25'00" in Marcus Hook Borough, Delaware County, Pennsylvania.

(ii) According to the Geological Map of Southeastern Pennsylvania, the geological survey of 1932

indicates there are no faults of record in the Marcus Hook Quadrangle. There has been no recorded seismic action anywhere in Pennsylvania in Holocene times.

(iii) According to the Federal Insurance Administration, flood insurance rate map of September 29, 1978, this facility is not within the 100 year flood plain.

Note: Part II - Hazardous Waste Management System of General Requirements for Treatment, Storage and Disposal Facilities (4UCFR Part 264), as of January 12, 1981 has been completed as Part B of this application.


POST ROAD
30
GAURD HOUSE
20
10
(E. TENTH ST.)
CREEK
30
BUILDING LOCATION
TRAINER BOROUGH
PARKING LOT
HOOK
FLOOD PLAIN MAP
Areas of 100 year Flood
Areas between limits of the 100-yr. flood and the 500-yr. flood.
Areas of minimal flooding.
NOTE: information taken fron FLOOD BOUNDARY & FLOODWAY MAP for Marcus Hook Dated 9/16/81
20
10
PROPERTY LINES
MARCUS HOOK BOROUGH
MARCUS

III Facility Layout - Details

Each storage area is designed to hold a maximum of 5,400 drums of 50 gallon capacity (Appendix 2 and 3). Floors for the storage area slope at a rate of 1/8 inch per foot to a spill retention basin of 96 cubic feet. Drums will sit on a four (4) inch high pallet type platform. Storage areas will be diked using 8" x 8" x 16" concrete block.

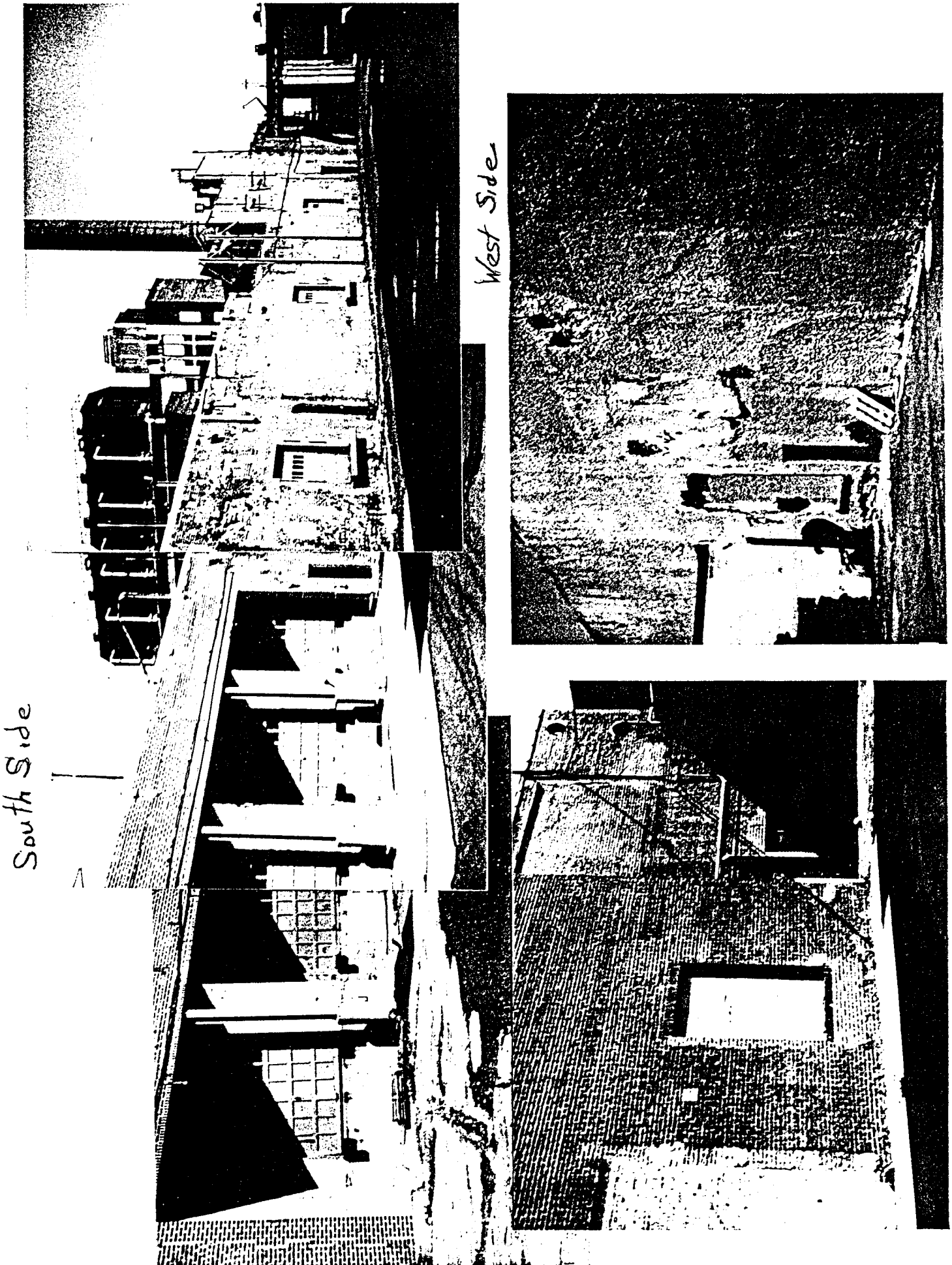
The concrete floor of the facility will be coated with a prime coat of an H-B Epoxy and a final coat of Epoxy Enamel.

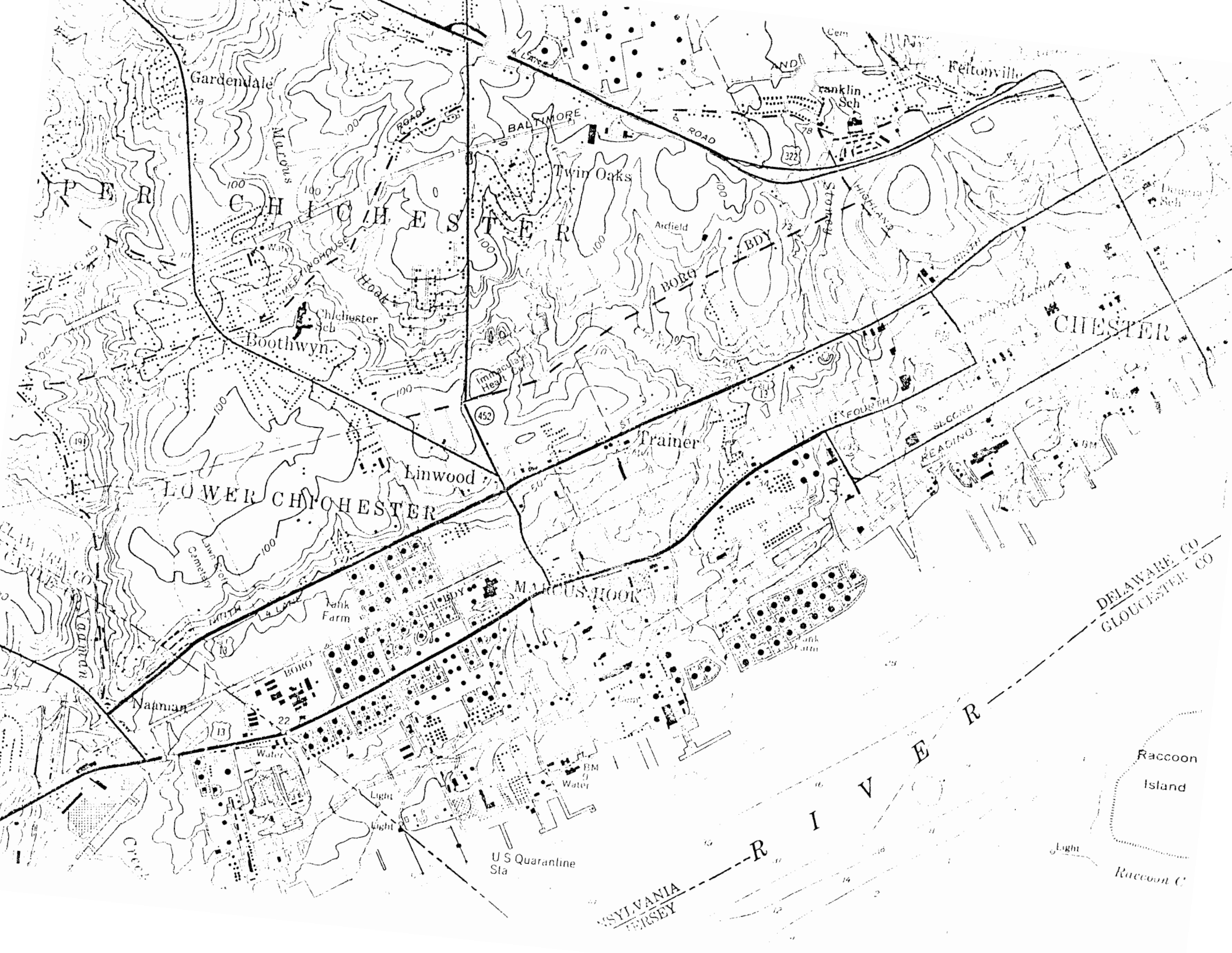
Compressive strength of this six (6) inch floor is thought to be in excess of 3,500 psi, since it is designed for heavy equipment.

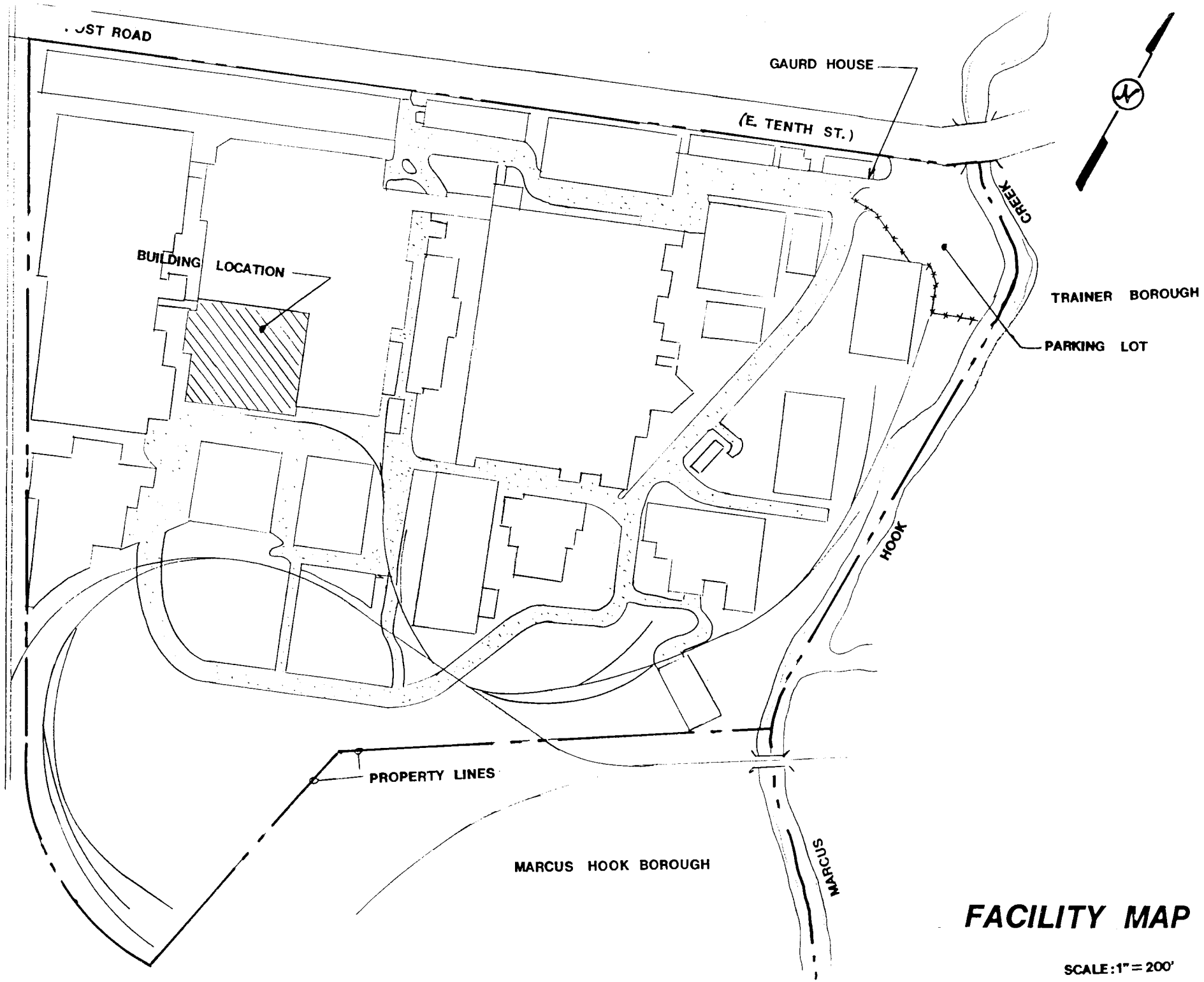
Laboratory and office space will have an area of 1,480 square feet while the treatment area will have 4,800 square feet.

All storage areas have a minimum of 50 foot buffer on all sides.

Sump pumps and/or vacuum pump will remove and prevent overflow of spill retention basins.

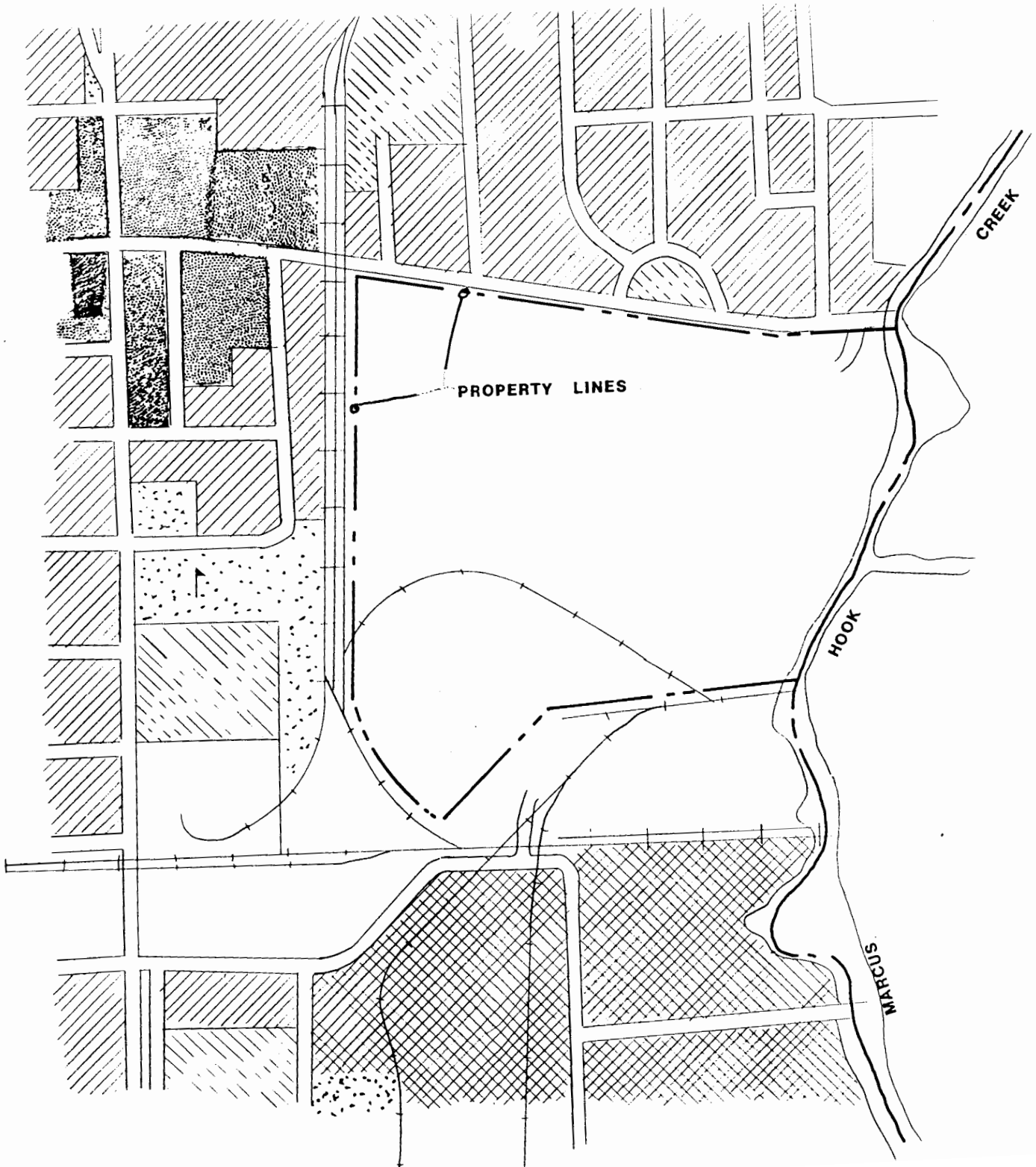

South Side
West Side


Gardendale
Marcus
ROAD
BALTIMORE
Twin Oaks
Ardfield
Feltonville
Franklin Sch
Cem
AND
PENN
CHICHESTER
Boothwyn
Chichester Sch
Hook
MILLHOUSE
Immaculate Heart Cem
BORO
BDY
HIGHLAND
STORROW
Trainer
Linwood
LOWER CHICHESTER
CHESTER
FOURTH
SECOND
READING
Lawn Cemetery
Talik Farm
MARCUS HOOK
Naaman
Water
Light
BM
U S Quarantine Sta
DELAWARE CO
GLOUCESTER CO
RIVER
Raccoon
Island
Raccoon C
SYLVANIA
JERSEY



FACILITY MAP

SCALE: 1" = 200'

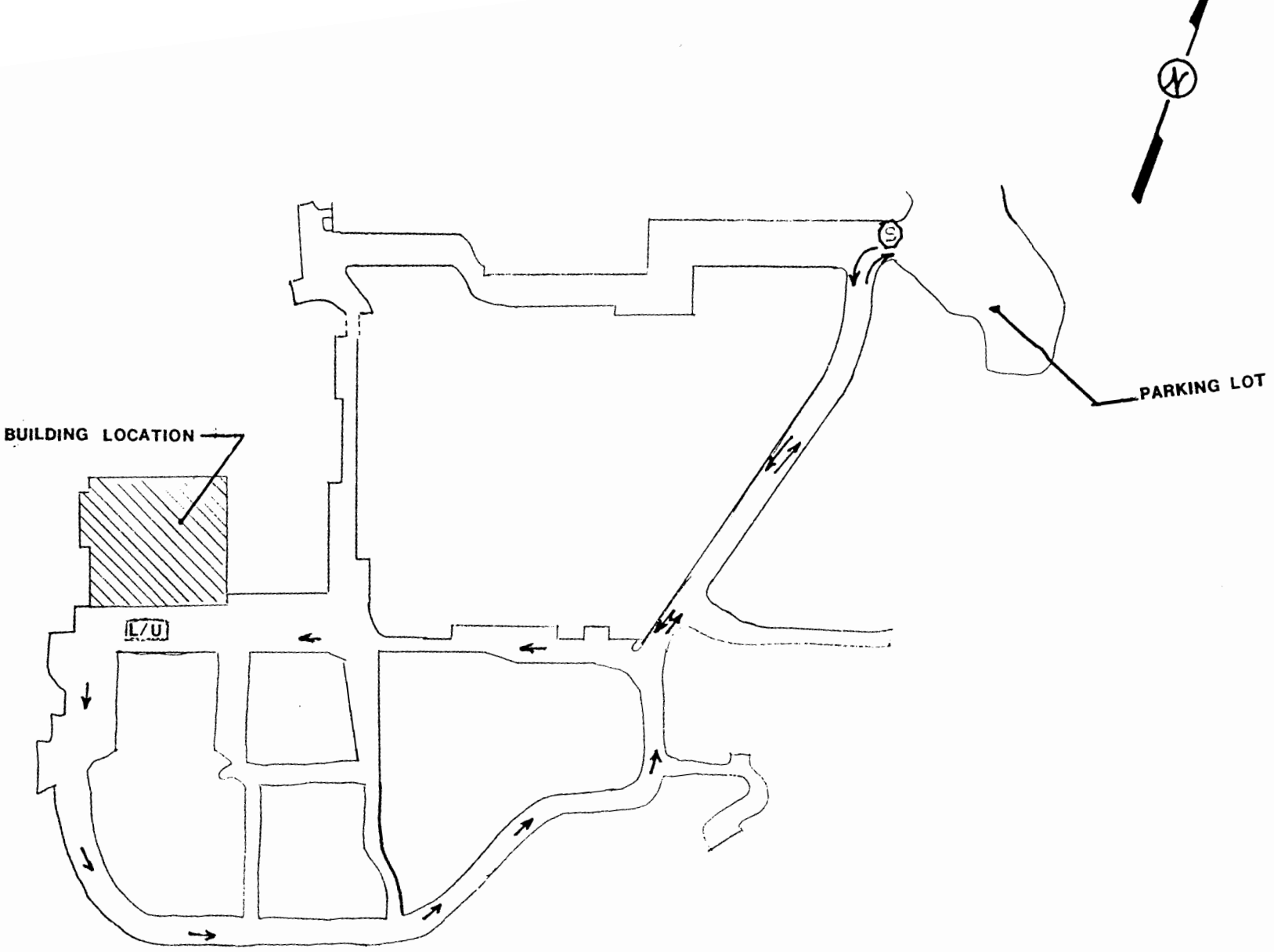


SURROUNDING LAND USE

- PARKS
- RESIDENTIAL
- INSTITUTIONAL
- COMMERCIAL
- LIGHT INDUSTRY
- HEAVY INDUSTRY

NOTE: information taken from JOINT COMPREHENSIVE PLAN for Trainer, Marcus Hook, Lower and Upper Chichester twp. DATED SEPT. 1978

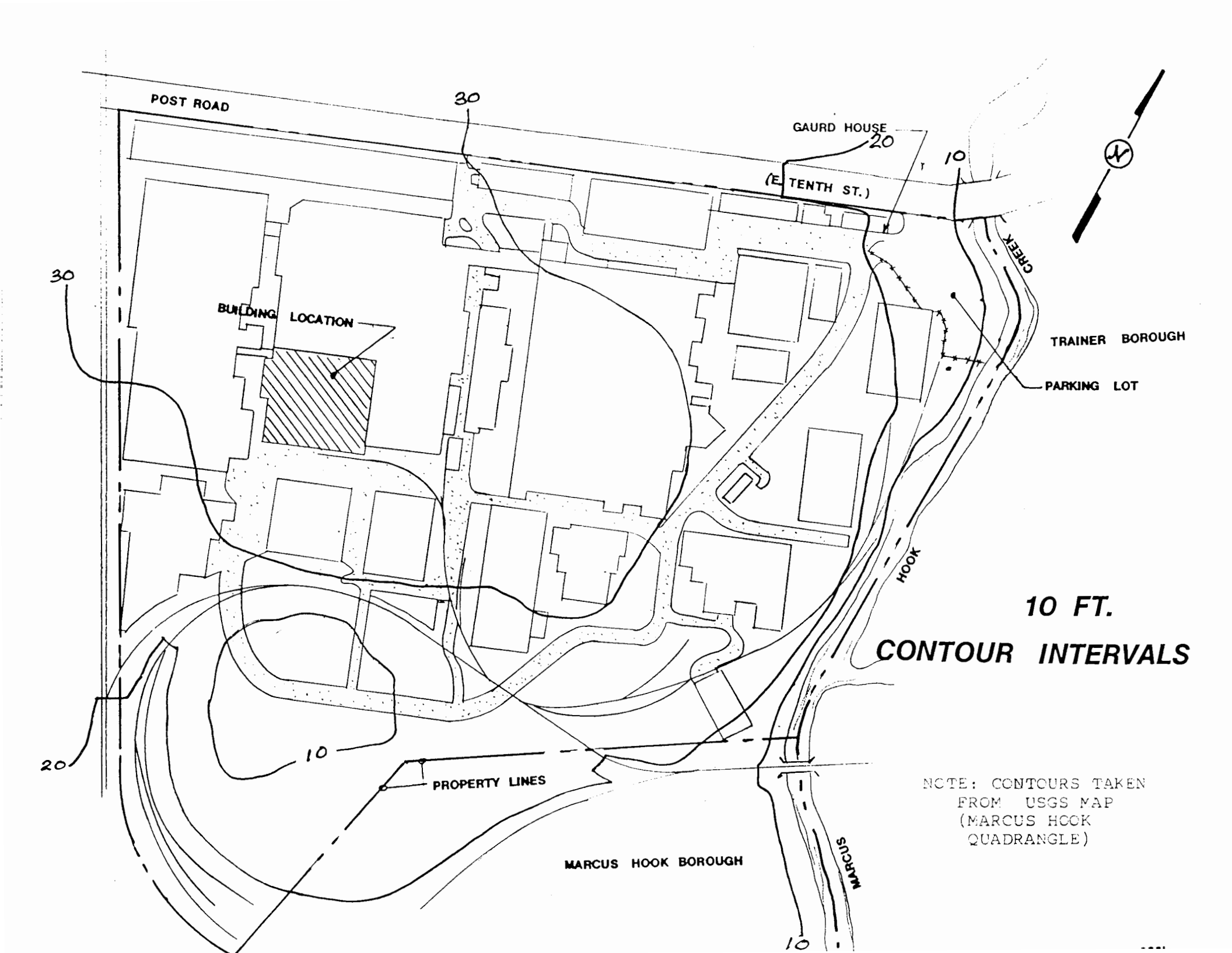
SCALE: 1"=1000'



TRAFFIC FLOW

NO SCALE

S STOP SIGN
L/U LOADING/UNLOADING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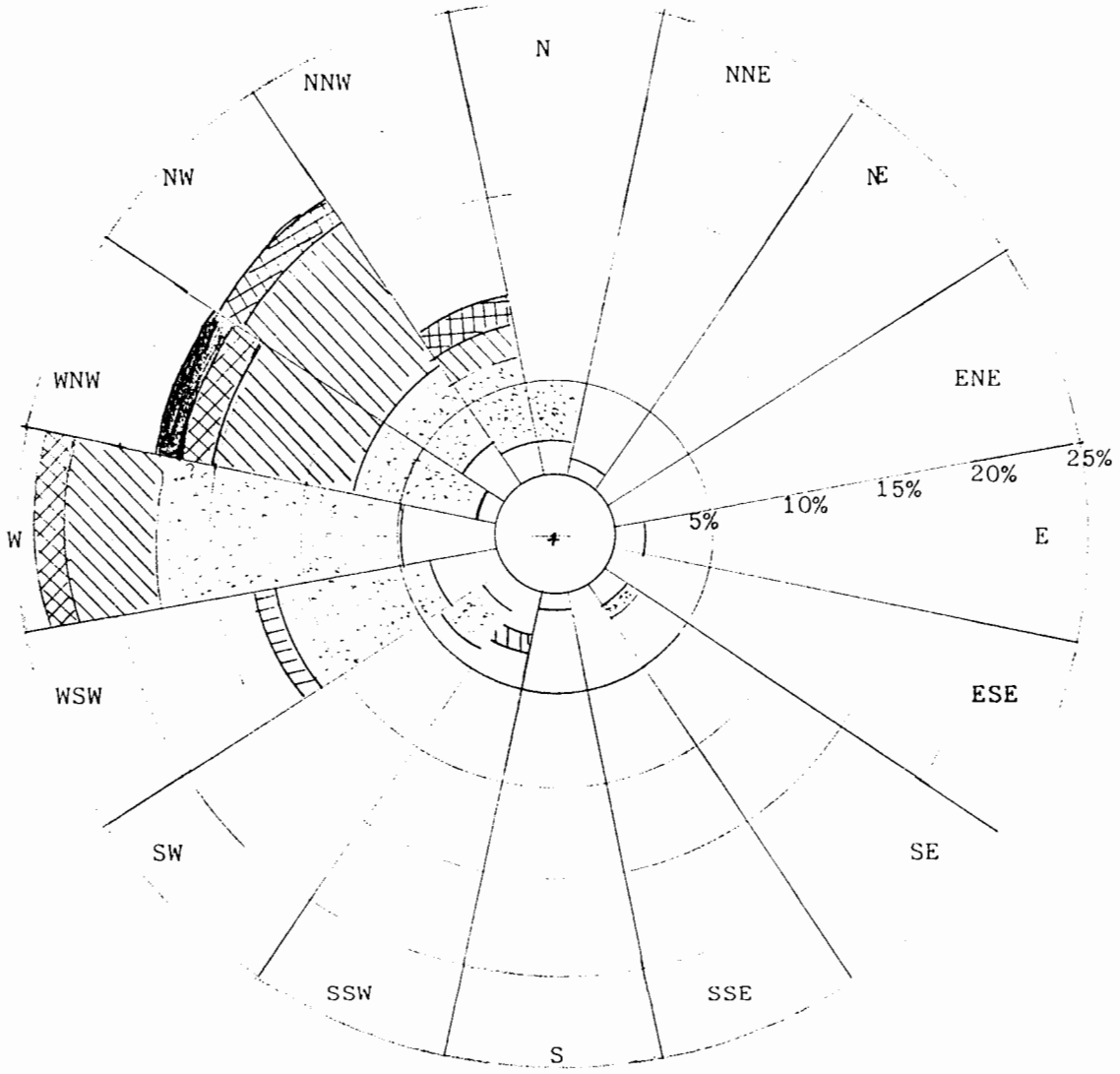
30
GAURD HOUSE
20
10
(E. TENTH ST.)
CREEK
30
BUILDING LOCATION
TRAINER BOROUGH
PARKING LOT
HOOK
10 FT.
CONTOUR INTERVALS
20
10
PROPERTY LINES
NOTE: CONTOURS TAKEN FROM USGS MAP (MARCUS HOOK QUADRANGLE)
MARCUS HOOK BOROUGH
MARCUS
10

DATA TAKEN AT PHILADELPHIA INTERNATIONAL
AIRPORT, PUBLISHED IN A MONTHLY SUMMARY
BY N O A A.
1971-1982



WIND ROSE

SUBPART A

GENERAL

265.1 Purpose, Scope and Applicability

East Coast Chemical Disposal, Inc. proposes to establish a facility located at 1971 Hartel Street, Levittown, Bristol Township, Bucks County, Pennsylvania for the purpose of storage, treatment and disposal of hazardous waste. Disposal will be off-site.

A genuine need exists for Hazardous Waste Management. ECCD will fulfill this need by collecting from generators, soiled solvents and spent chemicals, transporting these materials to their proposed facility for storage, treatment and disposal. Treatment will consist of neutralization and solidification. Some of the soiled solvents will be transported to a Resource Recovery Facility for conversion to a usuable product. Treated materials will be transported to a certified facility for disposal. There will be no disposal at this facility. This facility is totally enclosed. Amendments to this Permit will occur from time to time.

Industries are dependent on the services of this firm and others to provide Hazardous Waste Management.

265.2 - 265.3 Reserved

265.4 Imminent Hazard Action

Notwithstanding any other provisions of the regulations, enforcement actions may be initiated pursuant to Section 7003 of RCRA.

SUBPART B

GENERAL FACILITY STANDARDS

265.10 Applicability

East Coast Chemical Disposal, Inc. will operate in a fully closed 39,600 square foot facility. ECCD will transport hazardous wastes in containers (drums) and by bulk (tanker) from generators of these wastes to it's facility for storage, treatment and disposal.

At startup, soiled solvents will be transported to a Resource Recovery Facility for conversion to a usable product. Treatment of spent chemicals at this facility will be by neutralization and solidification by addition of acids or alkaline, and fly ash and/or vermiculite, etc.

265.11 Identification Number

This application has been assigned an identification number PAD 980706162.

265.12 Required Notices

A. The operator of this facility will notify the Regional Administrator in writing at least four (4) weeks in advance of receiving hazardous wastes from a foreign source.

B. Upon transferring ownership or operation of this facility during its operating life, the new owner or operator will be notified in writing of the requirements of this Part and Part 122 of this Chapter.

265.13 General Waste Analysis Plan

The general types of hazardous wastes which East Coast Chemical Disposal, Inc. is handling or will handle are (using the EPA hazardous waste number):

F001 The spent halogenated solvents used in degreasing and other applications, tetrachloreoethylene, trichlorethylene, methylene chloride, 1,1,1, trichloroethane, carbon tetrachloride, and the chlorinated fluorocarbons; and sludges from the recovery of these solvents.

F002 The spent halogenated solvents, tetrachloroethylene, methylene chloride, trichlorethylene, 1,1,1, trichloroethane, chlorobenzene, 1,1,2 trichloro 1,2,2 trifluoromethane and the still bottoms from the recovery of these solvents.

D001 Solid waste - ignitable

D002 Corrosive

D003 Reactive

D004 Arsenic

D005 Barium

D006 Cadmium

D007 Chromium

D008 Lead

D009 Mercury

D010 Selinium

D011 Silver

D012 Endrin(1,2,3,4,10,10-hexachlor-1,7epoxy-1,
4,4a,6,6,7,8,8a-octahydro-1,4-endo-5
8-dimethanonaphthalene)

D013 Lindane(1,2,3,4,5,6-hexachlorocyclohexanco,
gamma isomer)

D014 Methoxychlor(1,1,1-thrichloro-2,2-bis((
p-methoxphenyl))ethan)

D015 Toxaphene(C H Cl ,technical chlorinated camp-
hene 67-79% chlorene)

D016 2,4-D(2,4-Dichlorophenoxyacetic acid)

D017 2,4,5-TP Silvex(2,4,5-trichlorophenoxypropionic
acid)

F003 The spent non-halogenated solvents,xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, n-butyl alcohol, cyclohexanone, methanol, and the still bottoms from recovery of these solvents.

F005 The spent non-halogenated solvents, methanol, toluene, methyl ethyl ketone, methyl isobutyl ketone, carbon disulfide, isobutanol, pyridine, and still bottoms from the recivery of these solvents.

F006 thru F009 Wastewater treatment sludges from electroplating operations, bottoms of plating baths, spent stripping and cleaning solutions.

F010 thru F012 Heat treating operations; quenching bath sludges, spent solutions from salt baths, wastewater treatment sludges.

F013 thru F015 Mineral metals recovery; flotation tailings, cyanidation wastewater, tailing pond sediment, spent cyanide bath solutions.

F016 Coke ovens and blast furnances; dewatered air pollution control scrubber sludges.

F017 thru F019 Wastewater treatment sludges from chemical conversion; coating of aluminium.

K001 Wood preservation; sediment sludge.

K002 thru K008 Inorganic pigments; treatment sludges.

K009 thru K030 Organic chemicals: distillation and stream bottoms, still bottoms, residues, spent catalysts.

K031 thru K043 Pesticides - salts, sludges, heavy ends.

K048 thru K052 Petroleum refining: oil emulsion solids, tank bottoms, sludges.

K053 thru K059 Tanning finishing: Chrome trimming, shavings, sludges.

K060 thru K063 Iron and steel - spent pickle liquor, slurry, sludges.

Revised

K064 Primary copper - slurry/sludge.

K065 Primary lead - impoundment solids.

K066 thru K069 Primary zinc - sludge, slimes, leach residue, emission control dust/sludge.

K086 Solvent washes and sludges, caustic and acidic washes and sludges or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.

P001 thru P122 Discarded commerical chemical products, off-specification species, containers and spill residues.

U001 thru U239 Off-specification solvents with the following examples:

U002 Acetone.
U031 N-butyl alcohol.
U044 Chloroform.
U045 Chloromethane.
U075 Dichlorodifluoromethane.
U080 Dichloromethane.
U112 Ethyl acetate.
U140 Isobutyl alcohol.
U154 Methanol.
U159 Methyl ethyl ketone.
U161 Methyl isobutyl ketone.
U171 2-Nitropropane.
U210 Tetrochloroethylene.
U213 Tetrahydrofuran.
U220 Toluene.
U226 1,1,1, Trichloroethane.

The proposed facility is a 39,600 square foot building situated in an area zoned for industry.

All operations, storage and treatment will be within the confines of this building. The building contains a general office, areas providing for drum and tank storage, material and tool storage, treatment and shipment.

Drum and tank storage areas will consist of concrete pads surrounded by concrete dikes. Sump pumps are provided for recovery, if needed. Concrete pads will contain a thick layer of vermiculite to absorb any spills.

Container storage capacity for hazardous waste will be approximately 260,000 gallons.

Tank storage will be limited to two (2) 2,500 gallon heavy steel units, but may be increased if need arises. See Subpart J.

ECCD, in most cases, will transport any combination of compound which can be classified as organic solvent to a Resource Recovery Facility. These mixtures come from a wide variety of industries which use solvents in their operations.

Basic treatment operation is to neutralized acids, caustics, and to raise flash points to an acceptable level for transportation to a certified Class Al Disposal area. Fly ash, lime and vermiculite are common items used.

The following breakdowns of components are representative of the types of waste expected to be received for storage and/or treatment.

Automotive Industry

Waste Solvent Composition:	Toluene	40%
	Acetone	20%
Flash point 28°F	Methyl Ethyl Ketone	20%
Specific gravity .85 - .95	Isopropyl Alcohol	15%
pH 7	Dirt,Organic pigments	5%

Electronics Industry

(can be chlorinated or fluorinated solvents such as 1,1,1, Trichloroethane, Trichloroethylene, 1,1,2, Trichloro, 1,2,2, Trifluoroethane)

pH 3-9	Waste Solvent Composition: Pure Component	90%
Specific gravity 1.1 - 1.6	Non-hazardous resin	10%
Flash point None		

Paint Industry

Waste Solvent Composition:	Toluene	40%
pH 7	Acetone	20%
Flash point 92°F	Methyl Ethyl Ketone	20%
Specific gravity 1 - 1.2	Isopropyl Alcohol	15%
	Organic pigment	5%

Metal Finishing Industry, Including Steel:

Waste composition
Hydrochloric acid or nitric acid or sulfuric acid, or mixtures of these in various ratios.
Reduced iron salts of the acids present;

Nickel	Less than 5000 mg/l
Chromium	" " 2000 " "
Lead	" " 500 " "
Zinc	" " 5000 " "
Copper	" " 5000 " "

Traces of other heavy metals.
pH less than 2.
Specific gravity 1.1 - 1.25

Electronic Industry:

Waste composition - spent ferric chloride.
Total acidity as HCL less than 20%.
Copper less than 5000 mg/l
pH less than 2
Specific gravity 1.3 - 1.42
Traces of other heavy metals

Paint Industry:

Waste composition - paint sludge
pH 7-9 Volatile solvents less than 5%
Flash point greater than 140F
Water 10-15% Pigments 20-35%
Specific gravity 1 - 1.2
Non-hazardous resins less than 45%

Metal Industry:

Waste composition - cutting, cooling, rolling oils.
Water 90-95%
Emulsified vegetable ester oils less than 5%
Free oils less than 1%
Metal chips, turnings, dirt less than 1%
Traces of chlorinated solvents, usually 111-Tri or TCE.
pH 6-9
Flash point greater than 140F
Specific gravity 1 - 1.08

Automotive Industry - Paints:

Waste composition - caustic paint stripper
- Water 50-90%
- Sodium hydroxide 10-50%
- Emulsified oil less than 1%
- Paint solids less than 10%
- Organic solids less than 1%
- pH greater than 12.5
- Flash point greater than 140F
- Specific gravity 1.05 - 1.5

Metal Cleaning Industry

Solutions of chlorinated hydrocarbons

Waste Solvent Composition:	Perchloroethylene	85%
	Dirt, soil	15%
	or	
Specific gravity 1.1-1.4	Methylene chloride	80%
pH 3-9	Dirt, soil	20%
Flash point - None		

Others&
ECCO can receive many types of organic solvents from various industries such as:
Butyl cellusolve, methanol, xylene, butyl acetate, ethylene dichloride, mineral spirits, heptane, etc.

Metal Cleaning Industry
(Solutions of chlorinated hydrocarbons)

Waste Solvent Composition:	Perchlorethylene	85%
	Dirt, soil	15%
	or	
Specific gravity 1.1 - 1.6	Methylene Chloride	80%
pH 3-9	Dirt, soil	20%
Flash point None		

Others
ECCD can receive many types of organic solvents from various industries such as:
Butyl cellosolve, Methanol, Xylene, Butyl acetate, Ethylene Dichloride, Mineral spirits, Heptane, etc.

As described above, all wastes received for processing and subsequent disposal are classified as hazardous wastes. Accordingly, a rather extensive analysis plan will be required to ensure that

1. All wastes received are what were contracted for.

2. Quality control is maintained through out the entire processing operation.

East Coast Chemical Disposal, Inc. has established a policy that will require each waste generator to CERTIFY that the wasted shipped to ECCD will NOT contain any of the products found on a list of unacceptable materials. This list includes but is not limited to

~~Pesticides~~.
~~Carcinogenic materials - known and suspected~~.
Polychlorinated biphenyls (PCB's).
Radioactive materials.
~~Poisons~~.

This list is constantly reviewed, based on current literature and is updated and/or changed as necessary.

The generator certification eliminates the need for testing for all of these materials.

A. Initial sample/contact interview.
When a prospective customer requests that a sample be submitted for evaluation, a field sales engineer is sent out to interview the customer to obtain a sample, and, if possible, to observe the process actually generating the waste.

Appendix 1 represents a typical contact interview

questionnaire. The questionnaire form is self-explanatory but several items need to be discussed further.

1. Waste identification - this is what the customer or generator calls the waste, not what the sales engineer perceives it to be.

2. Process description - the most important feature of the questionnaire is the detail relating to the process generating the waste. ECCD will sign the appropriate confidential agreement with a waste generator, if necessary, to obtain this information.

The routing of this questionnaire will be as follows:
Original - white - general manager.
2nd copy - canary - lab.
3rd copy - pink - transportation.
4th copy - blue - sales.

Representative samples of potential waste streams are very important but, unfortunately, are difficult to obtain. Bulk wastes may be sampled using a Bacon Bomb thief's sampler (somewhat messy, but effective). Drums, on the other hand, MUST be individually sampled. The fancy name for this type of sampler is the COLIWASSA but a stout thumb and a pipe will do exceptionally well.

B. Laboratory Analysis.
All samples submitted to ECCD for evaluation and pricing for potential recycling and/or disposal will receive the following minimal lab analysis:
Specific gravity.
Flash point (Tag Closed Cup or Pensky Martins Closed Cup)
Total residue on evaporation.
Distillation range and yield.
Component identification and concentrations.

It should be noted that component composition and concentration will be determined by using a gas chromatograph with a flame ionization detector.

Based on the contact interview questionnaire, additional testing may be required. Testing beyond our capabilities will be sent to an outside laboratory.

C. Laboratory Analysis - PA DER Requirements.
The Pennsylvania Department of Environmental Resources requires that all hazardous or residual waste streams

be submitted for approval prior to treatment, storage or disposal at a TSD facility. This request is made using the Module 1 application (Appendix 2). An extensive laboratory analysis, in addition to that listed above, is required when submitting a Module 1. However, in order to respond to the waste generator in a timely manner, the Module 1, complete with the additional analysis, will be submitted only after a firm order is issued by the waste generator.

It should be noted that the generator is actually responsible for initiating the Module 1 submittal, but ECCD may do so as a service to the generator.

D. Receipt Control.

When a quotation is issued to a waste generator for a specific waste stream, specifications for the waste are provided. Before the waste stream arrives at the ECCD facility, these specifications are entered on a Treatment-Spec sheet for the plant and laboratory.

Upon arrival, each drum is sampled and the appropriate composites are made. Composites are limited to a maximum of ten (10) drums on each waste stream in order to minimize dilution.

When the analysis is complete, a determination is made whether the waste load is "in spec or out of spec". If "in spec", the load is accepted for processing. If "out of spec", the waste generator is notified immediately by telephone. The final disposition of the "out of spec" load then rests with the generator.

At a minimum, all incoming loads will be analyzed as in Section B above.

All loads will be "logged in" several ways. A master log will be kept by the laboratory denoting the following information:

Date.
Time of Arrival.
Waste Generator.
Waste Identification.
Manifest Number.
B/L Number.
Disposition of Load.
Remarks.

A second log will be kept by the waste generator and by the office staff. This log will include the appro-

GENERAL FACILITY STANDARDS

40 C.F.R. §264.13 Waste Analysis Plan

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1. All wastes received are what were contracted for.

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East Coast Chemical Disposal, Inc. (ECCD), has established a policy that will require each waste generator to CERTIFY that the wastes shipped to ECCD will NOT contain any of the products found on a list of unacceptable materials. This list includes, but is not limited to Radioactive materials.

This list is constantly reviewed, based on current literature and is updated and/or changed as necessary.

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A. Initial sample/contact interview.

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1. Waste identification - this is what the customer or generator calls the waste, not what the sales engineer perceives it to be.

2. Process description - the most important feature of the questionnaire is the detail relating to the process generating the waste. ECCD will sign the appropriate confidential agreement with a waste generator, if necessary, to obtain this information.

3. Remarks - here the sales engineer writes the actual identification of the waste stream; analytical information supplied by generator may be entered here.

The routing of this questionnaire will be as follows:

Original - white - general manager
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3rd copy - pink - transportation
4th copy - blue - sales

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All samples submitted to ECCD for evaluation and pricing for potential recycling and/or disposal will receive the following minimal lab analysis:

- Specific gravity
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- Total residue on evaporation
- Distillation range and yield
- Component identification and concentrations

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C. Receipt Control

When a quotation is issued to a waste generator for a specific waste stream, specifications for the waste are provided. Before the waste stream arrives at the ECCD facility, these specifications are entered on a Treatment-Spec sheet for the plant and laboratory.

Upon arrival, each drum is sampled and the appropriate composites are made. Composites are limited to a maximum of ten (10) drums on each waste stream in order to minimize dilution.

When the analysis is complete, a determination is made whether the waste load is "in spec or out of spec". If "in spec", the load is accepted for processing. If "out of spec", the waste generator is notified immediately by telephone. The final disposition of the "out of spec" load then rests with the generator.*

At a minimum, all incoming loads will be analyzed as as in Section B above.

*EPA will be notified of this action within 30 days.

All loads will be "logged in" several ways. A master log will be kept by the laboratory denoting the following information:

Date
Time of Arrival
Waste Generator
Waste Identification
Manifest Number
B/L Number
Disposition of Load
Remarks

A second log will be kept by the waste generator and by the office staff.

East Coast Chemical Disposal, Inc. will be treating hazardous wastes which will be received in drums and treated in drums for neutralizing of its components.

As stated in the reference for 40 C.F.R. §264.13 in this report, East Coast Chemical Disposal, Inc. basic treatment operations are to neutralize acids and caustics prior to transportation to disposal areas. The hazardous wastes received by ECCD will not be a total concentrated acid or alkaline. However, the compounds found in the drums for treatment will be acidic or alkaline and will be neutralized and solidified by items such as fly ash, lime, vermiculite and baking soda.

When ECCD makes laboratory analyses of wastes received to be sure of correct identification, representative samples will be taken to exhibit the average properties of the universe or whole (e.g., waste or ground water).

WASTE ANALYSIS PLAN

Parameters and Rationale

Test parameters and rationale for testing are shown on Table No. 1. It must be noted however, that these tests are the minimum, additional testing for each type of waste may be performed at the discretion of the chief chemist.

Test Methods and Procedures

All test methods and procedures are taken from:

"Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods" SW-846-2nd edition, July 1982 (USEPA OSWER, Washington, D.C.)

Please note that the above publication will be referred to hereafter as SW-846.
Table 1 lists the test parameters required for each category of hazardous waste and rationale for their selection.

Table 2 list the parameters and test methods used for each waste being processed.

Sampling Methods

All sampling techniques are carried out with procedures as described in SW-846. ASTM Std D140-70, D346-75, D420-69, D1452-65, D2231-76.

Frequency of Analysis

Every shipment of wastes arriving at ECCD for processing and potential recycling or disposal, is sampled for analysis before acceptance and signing of the manifest. The confirm-atroy analysis ("fingerprint" analysis) will consist of a series of qualitative and quantitative tests selected from the following listing. These tests will be selected based upon the recommendation of the chief chemist and will be selected to provide confirmation that the actual waste characteristics are the same as those determined in the analysis of the pre-acceptance sample and correspond with the information presented on the manifest.

Listing of potential "fingerprint" tests -

physical state determination
physical properties observation (color, odor, number of phases, volatility)
flash point

water reactivity
gas evolution upon acidification
qualitative tests for halogens
pH
relative density
acid, base, and organic solvent solubility
presence of oxidizing agents
water miscibility
total organic carbon (TOC)
specific conductance
solids precipitation on neutralization
specific gravity
infra-red spectroscopy

Not all of these tests will be performed on each sample because they do not all provide relevant information depending on the physical and chemical nature of the waste. During the pre-acceptance analysis of the waste, the chief chemist will establish which tests will be run on the wastes at the time of receipt of the actual shipment.

Most of these tests are qualitative in nature. Thus, that makes the rejection criteria applied to them quite straightforward. The sample of the actual waste must possess the same qualitative properties tested for as the pre-acceptance sample and must be consistent with those properties expected based on the manifest description of the waste.

For quantiative tests, the following rejection criteria are established:

pH - deviation of not more than $\pm$ 0.5 units from pre-acceptance sample

flash point - must not display a value which would result in a change in hazardous characteristic (i.e., a non-ignitable pre-acceptance sample must not now be ignitable) and numerical deviation must not be more than 10% of the pre-acceptance sample value

TOC - numerical deviation must not be more than 10% of the pre-acceptance sample value or value ranges established in consultation with the generator

specific conductance - numerical deviation must not be more than 10% of the pre-acceptance sample value or value ranges established in consultation with the generator

specific gravity - numerical deviation must not be more than 10% of the pre-acceptance sample value or value ranges established in consultation with the generator

Applicability of Tests

As noted, not all of the above tests will be applied to each waste. A customized fingerprint scheme will be developed for each waste to best suit that waste. In general, the tests will be applied to the wastes in the following general manner.

All Wastes -

physical state determination
physical properties observation

Solids and sludges -

flash point
water reactivity
gas evolution on acidification
qualitative test for halogens
pH
relative density
acid, base, and organic solvent solubility
presence of oxidizing agents

All liquids -

water miscibility

Non-aqueous liquids -

flash point
specific gravity
qualitative tests for halogens
infra-red spectroscopy

Water-miscible liquids -

pH
TOC
flash point
specific conductance
gas evolution on acidification
solids precipitation on neutralization
presence of oxidizing agents

Test Description

A description of each test and of its applicability and purpose is presented here.

Physical state determination - A visual observation of a representative sample is made to determine the number and type of physical states present. Possibilities include liquid, dry solid, wet solid, wet solid with free liquid.

Physical properties observation - The representative sample will be observed to note its color, odor, number of phases if liquid, and its volatility will be determined using an organic vapor monitor with a photoionization detector (PID). All these observations are useful in determining the nature of the waste and the proper method of storage and treatment.

Flash point - determined by Pensky-Martens closed cup method as per SW-846. Essential information for proper stoarge and treatment and emergency response, if needed.

Water reactivity - A small (i.e., a few grams) sample will be added to distilled water in a fume hood to determine if signs of water reactivity are exhibited. Typical signs are gas evolution and heat generation, although other reactions such as significant pH changes may also be noted. Water reactive materials are to be isolated in cells designed for proper emergency response to these items.

Gas evolution on acidification - A small amount of either the liquid or solid waste is added to a non-oxidizing mineral acid such as hydrochloric acid (dilute) in a fume hood. The liberation of gas indicates the potential for toxic materials such as cyanide and/or sulfide present. It can also indicate the presence of non-toxic acid sensitive anions such as bicarbonate and carbonate, but it does reveal an acid incompatibility and provides information on which cell storage should be in.

Qualitative test for halogens - A minute amount of the solid/ sludge or non-aqueous liquid is heated in a flame on a copper loop of wire. The presence of halogens imparts a distinct green color to the flame. This is a relatively straightforward and reliable test for the presence or absence of chlorinated compounds in the waste.

pH -Will be measured potentiometrically in accordance with SW-846. This is essential data in checking the identity of solid/sludge and water-miscible liquid wastes.

Relative density - Water insoluble solid/sludge wastes will be added to water to determine their relative density. this property will also be noted for any material that shows insolubility in the acid, base or organic solvent used in this classification scheme. This information can be useful in determining the nature of a material.

Acid, base and organic solvent solubility - Small amounts of solid/sludge materials will be added to dilute acid, dilute base and organic solvents. The degree of solubility in these solvents yields information on whether the waste is organic or inorganic in nature or if more than one type of material is present.

Presence of oxidizing agents - solid/sludge and water-miscible liquid wastes will be tested with starch-iodide paper (similar to pH or litmus paper) to determine the presence of oxidizing agents. This is a colorimetric test which can provide information on the presence of such reactive materials as metals in high valence states (e.g., Cr^{+6}, Mn^{+7}) and other oxidizing species such as peroxides. These materials need to be separated from easily oxidizable species such as organics to prevent possible incompatible reactions.

Water miscibility - A small amount of unknown liquid waste is added to distilled water to determine if their are miscible. Water immiscible materials are organic liquids and can be handled as such for further quantification and treatment.

Total organic carbon (TOC) - TOC will be run as per SW-846 on water-miscible liquids. Water-immiscible liquids are assumed to be essentially 100% organic. However numerous water miscible liquids are organic in nature (e.g., acetone, alcohols) and need to be handled as such.

Specific conductance - This will be done in accordance with SW-846. Again, this test is to be used on water miscible liquids as further information on whether the liquid is inorganic or organic in nature and to determine the level of dissolved salts in the liquid.

Solids precipitation on neutralization - For acidic water miscible liquids a representative sample will be neutralized with dilute base to determine if dissolved metals are present.

Specific gravity - For water immiscible liquids, their specific gravity will be determined by using hydrometers. Specific gravity yields valuable information on the nature of the liquid because certain materials such as aromatics are generally lighter than water and halogenated organics are generally heavier than water. Significant insight into the waste chemistry is obtained through this test.

Infra-red spectroscopy - This would be applied to solid/sludge and water immiscible liquids to differentiate among wastes that possess potential incompatibilities. For example, waste K026 can contain either amines or aldehydes which are potentially incompatible. IR can be used to determine which functional group is present in the waste so that proper placement and treatment of the material can be achieved.

On-going Quality Control of Received Wastes

In addition to the analysis performed on a routine basis, random selected samples of arriving wastes will be analyzed as follows:

a. Appendix VII constitutents causing the wastes to be listed as hazardous
B. EP Toxic metals and pesticides

These random selected samples will be done at a minimum of once per year but no more than three (3) times per year for each received waste stream based on the following factors:

a. Volume of material received on a monthly basis
b. History of waste stream with respect to consistency, i.e., has the waste stream been received with different treatment chemistry than the original sample submitted for treatment process evaluation and analysis.

Disposition of Out of Spec Samples

Any actual waste which exhibits qualitative or quantitative analysis results which are not within the specifications established by the chief chemist for that waste stream will be resampled and reanalyzed. If the second sample is found to be out of spec, the generator will be notified of the problem. Unless the generator can present sufficient reason why there is an anomaly in the received waste as opposed to the pre-acceptance sample, the out of spec wastes will be refused by the facility and returned to the generator.

Annual Verification of Waste Analysis

As part of our on-going waste control program, an annual reanalysis of each client waste stream will be carried out. This analysis will consist of

1. All chemical and physical analyses contained in the Contact Interview Questionaire
2. Indicator or "fingerprint" analyses selected for this waste stream as described above
3. Parameters for which the waste is listed as hazardous or hazardous characterisitics if applicable
4. All constitutents organic or inorganic comprising greater than 0.1% by weight (1000 ppm)
5. Constitutents or other properties which may make the waste incompatible with other wastes for handling, storage or treatment.

Containerized Waste Management

Once accepted for storage and treatment/recycle, each waste container will have a label affixed to it for identification and tracking purposes.

The label will contain the following information:

- Generator's name
- Date received
- EPA Waste I.D. Number
- RGN Group Number
- Cell Assignment Number
- DOT Emergency Response Guidebook Protocol Number
- ECCD Inventory Control Number
- Waste Acceptance Approval Signature Block
- Waste Name or Description as Supplied by Generator

All of this information will also be entered in a master log book. Once the waste is processed out of the facility, the date and disposition of the waste will also be entered into this master log book. It is the responsibility of the facility operations manager and his superintendent to assure that each drum receives a properly completed label prior to it being entered into storage in the facility. As part of his daily reporting, he will note whether the quantities on the manifests received and completed that day coincide with the quantities entered into the master log book and the number of drums placed into storage.

priate analytical data in addition to the data kept on the master log, as described above.

East Coast Chemical Disposal, Inc. basic treatment operations are to neutralize acids, caustics, and to raise flash points to an acceptable level for transportation to certified Class Al disposal areas. The hazardous wastes received by ECCD will not be a total concentrated acid or alkaline. However, the compounds found in the drums for treatment will be acidic or alkaline, and will be neutralized by items such as fly ash, lime, vermiculite, baking soda.

When ECCD makes laboratory analyses of wastes received to be sure of correct identification, representative samples will be taken to exhibit the average properties of the universe or whole (e.g., waste or groundwater).

264.14 Security

ECCD will maintain security at its Marcus Hook Borough facility in several fashions. First of all, the facility is located in an industrial park, patrolled regularly by security forces. The active portion of the facility will be located within the building of the plant itself which will be locked when not in use. During normal work hours, there will, of course, be the security provided by plant employees. All entrances to the building will be locked. In addition, special signs with the legend "Danger Unauthorized Personnel Keep Out" will be placed on all doors of the building.

Since the predominant population in this area is entirely English speaking, security signs will be in English only. It is estimated that the signs will be legible at a distance of 150 feet.

The above security measures are evident and are marked on the diagram of the facility.~~which will be available as a diagram in supply numbers.~~

General Inspection Requirements

ECCD will have from the start of its operations a regular program of inspection specifically oriented to determine and correct the malfunctions and deterioration of the plant, to detect operator errors and to detect and prevent and correct any discharges which may occur. A posted written schedule will be followed in these inspections. Waste containers, storage areas, the processing area itself, and any areas where spills would be likely to occur will be inspected on a daily basis. The chemical containers will be inspected especially for leaks and seam problems. Detection of problems with the containers should be relatively easy to accomplish since many of them will be filled and

emptied during the same day. Simple visual inspection should be adequate on this daily basis. Periodically, which will mean approximately quarterly, an instrumental inspection on the containers will be conducted using electronic atomic absorption devices to determine the thickness of the container. From this information, structural strength of the container, the probabilities of its developing leaks in the near future, and a projected estimate of container life and wearability will be obtained.

Written records will be kept of all inspections. These records will be kept for a period of five (5) years. Included in the records will be the name of the inspector, the date and time of the inspection, and a notation of any special observations. Any repairs that are made to the equipment or containers will also be noted both as to their nature and the date and time which they are performed. The ultimate responsibility for monitoring these records and ensuring that they are kept up to date will be that of the foreman, the plant operator as well as the owner. The philosophy of an inspection will be based on the rate of possible deterioration of the equipment and the probability of a leak or malfunction that will pose a problem to environmental health or human health. Deterioration and wear out is, of course, a function of both time and the intensity of use. A good deal of information on the rate of deterioration or failure is available from written records from manufacturers, from the existing data kept by ECCD and from published data from similar operations. With time, this information can be kept on a more sophisticated basis with estimates of deterioration used in planning and updating the facility. This will be facilitated as ECCD develops on going experience at the facility. The initial plan schedules for inspection and monitoring are given in the Tables to this section. The survey of the projected schedules for containers, movement of equipment, safety and emergency equipment, monitoring equipment and security equipment at the plant will meet requirements. Equipment repair or container repair will be conducted as quickly as possible. Where deterioration has created a situation where hazard may be imminent, remedial action will be taken at once.

Daily inspections will be primarily the responsibility of the foreman. He may assign this task during the day to any of the employees. However, it will be his responsibility at the end of the day to conduct a walking tour of the plant and make sure that there are no leaks or spills in any area. One employee will be designated to do this should the foreman be ill or absent.

SECURITY DEVICES INSPECTION LOG SHEET

Inspector's name/title _____/_____

Date of inspection _____ (month/day/year)

Time of inspection _____ (military time)

Item	Types of problems	Status (√)		Observations	Date and nature of repairs/remedial action
		Acceptable	Unacceptable		
Facility fence	Corrosion, damage to chain link fence or barbed wire				
East gate (main entrance)	Corrosion, damage to chain link fence or barbed wire				
West gate and lock	Corrosion, damage to chain link fence or barbed wire; sticking or corroding lock				
Container storage area fence	Corrosion, damage to chain link fence or barbed wire				
Container storage area gate and lock	Corrosion, damage to chain link fence or barbed wire; sticking or corroding lock				
Remote control to east gate	Transmitter or receiver; sticking of gate				
Two-way radios	Transmitter or receiver				

Security devices inspection log sheet.

(continued)

Item	Types of problems	Status (√)		Observations	Date and nature of repairs/remedial action
		Acceptable	Unacceptable		
Chest-mounted gas mask cannisters	Cannisters become exhausted				
Self-contained breathing apparatus (SCBA)	Air quantity in reserve, air delivery system, moisture in tank (cold weather)				
Portable sump pump	Power, clogging				
Fire blankets	Dispensing				
Fire extinguishers	Needs recharging				
Fire alarm system	Power failure				
Telephone system	Power failure				
Public address system	Power failure, speakers				
Generators	Fuel supply, spark plugs, oil				
Emergency lighting system	Battery failure, lights				
First aid equipment and supplies	Items out of stock or inoperative				
Steam cleaner	Water supply, fuel supply				
Protective clothing (impermeable full-body coveralls, gloves, and foot coverings)	Holes, normal wear and tear				
Decontamination facility (showers, dirty room, clean room)	Water pressure, leaking, drainage, upkeep				

Personnel Training

All personnel will be required to complete a course of training which will enable them to perform their specific duties in keeping with EPA and state regulations and with requirements of the RCRA. No employee will be allowed to work unsupervised until he has successfully completed the training program. Training records will be maintained of the progress of each employee. Each employee will be tested intermittenly during the program to ensure satisfactory progress. Each new employee will be considered probationary for a period of ninety (90) days during and following this period of training. The training program will begin as a series of classroom exercises for the present employees. All employees, present and future, will be issued at the date of their hiring, a series of training aids and information which will augment their classroom and on the job training. Training records, tests and records of student progress will be kept for a period of five (5) years. In addition, as technological or other changes may require there will be periodic seminars and sessions for all employees dealing with changes in the procedure or changes in the relevant technology. This will be especially important when new equipment is introduced. The overall training program will be based and integrated into the existing philosophy that no system is more sophisticated than those who run it. And in keeping with our company philosophy of first developing a powerful and experienced corp of staff and adding the technological sophistication to it.

In addition to basic training and special seminars, there will be an annual review for all employees of the firm on the basic training. This review will stress, however, the sections required by EPA regulations in Sections 265.16 paragraph A in the Federal Register of May 19, 1980. This particular material will emphasize the procedures employed during emergencies including the use, inspection, repair, replacement of emergency equipment, the various communication systems and networks, the emergency alarm system, the response in case of fire or explosion, the response in event of pollution incidents, as well as a section on the total shutdown of operations in an emergency.

It is estimated that all employees will be expected to complete the testing program within ninety (90) days after their employment. The first part of the employee training program will be concerned with personal safety. Each employee will have a tour of the plant, showing him or her the location of all the emergency equipment, first-aid stations, emergency shut-off equipment, the fire prevention alert system, the fire alarm system and a brief orienta-

Basic Training - Special Seminars

All training programs will be the responsibility of Miles B. Potter, Professional Engineer, with twenty plus years of teaching at the University level.

Basic training will cover the proper handling of raw materials, intermediates and finished products, and waste by-products. As technological or other changes may require, there will be periodic seminars or other sessions for all employees dealing with these changes or changes in revelent technology.

In addition, Rex A. Hunter, analytical chemist, with hands-on experience in hazardous waste training, and Philip E. Einhorn, an analytical chemist, who has developed numerous training programs, will be available for these programs.

tion to the communications system in the event of an emergency, all necessary safety gear and instructed in its use. This gear is summarized in Table 265.16-1. In addition, each employee will receive a copy of the general emergency numbers to call in the event of an injury to plant personnel or anyone else occurring due to an accident or from release of hazardous waste. This information is summarized in Table 265.16-2.

In order to ensure that all personnel know what to do in the event of an emergency, fire, explosion or other emergency, a series of hand-outs will be given to all personnel. The hand-outs to be given are listed in Table 265.16-3. Each hand-out or set of guidelines will include not only the duties of the various personnel but also a description of the communications that are to be given and the flow of communication. While all facility personnel must become involved in an emergency, even if only to vacate the facility. it is the normal function and responsibility of the key personnel which deals specifically with the hazardous waste to see that all follow regulations. At this facility most of the personnel would fall into this category. It is the proper functioning of these personnel, in their day to day jobs, which eliminates the need for emergency responses by eliminating emergencies. The additional training given to these active waste handling personnel will be specific training appropriate to their job functions. Table 265.16-4 lists the categories of personnel, their specific duties included in a job description, and the additional training that they will receive.

General Requirements for Ignitable, Reactive or Incompatible Wastes

The general safety provisions employed by ECCD give a reasonable protection against accidental ignition or reaction of wastes. However, several other measures which might be of note here will be used to specifically guard against these dangers. No open flames, cutting or welding equipment or radiant heating units will be used in the shop area. Smoking will not be permitted in the shop area and "no smoking" signs will be conspicuously placed. The same provisions will be made outdoors in the loading and receiving areas whenever waste is present in these areas. Smoking will be entirely prohibited except in the area of the office. To avoid friction as a source of heat or sparks, non-sparking tools will be employed in all the processes of either the shop area or the loading and receiving area. Incoming wastes that are more than slightly acid or basic will be neutralized immediately upon unloading. Wastes which appear to be highly ignitable will be treated prior to entering the facility and special treatment may also be applied immediately upon recep-

tion as well. Treatment at the facility involves solidifying the waste through the addition of fly ash and vermiculite. This treatment also reduces the probability of any reactions. The present wastes received by ECCD appear to be quite compatible for comingling and do not give off uncontrolled toxic mists.

Treatment (Processing) Area

The treatment of wastes will be done in a 780 square foot floor area covered with a layer of Quick-Dri or vermiculite. Processing is generally described in 265.1 and in 265.13 through 265.17.

This floor area of 780 square feet is large enough to locate automated equipment as deemed necessary.

Any spills or leaks in this area will be clean up according to specification as outlined in 265.56IA.

WASTE ANALYSIS PLAN

Parameters and Rationale

Test parameters and rationale for testing are shown on Table No. 1. It must be noted however, that these tests are the minimum, additional testing for each type of waste may be performed at the discretion of the chief chemist.

Test Methods and Procedures

All test methods and procedures are taken from:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" SW-846-2nd edition, July 1982 (USEPA OSWER, Washington, D.C.)

Please note that the above publication will be referred to hereafter as SW-846.
Table 1 lists the test parameters required for each category of hazardous waste and rationale for their selection.

Table 2 lists the parameters and test methods used for each waste being processed.

Sampling Methods

All sampling techniques are carried out with procedures as described in SW-846. ASTM Std D140-70, D346-75, D420-69, D1452-65, D2231-76.

Frequency of Analysis

Every shipment of Wastes arriving at ECCD for processing and potential recycling or disposal, is sampled for analysis before acceptance and signing of the manifest. This analysis will consist of, but will not be limited to the following:

a. Specific Gravity.
b. Flash Point (as required by class).
c. Component identification by G/C, where applicable.

In addition to the analysis, random selected samples of arriving wastes will be analyzed as follows:

a. Appendix VII constituents - causing wastes to be hazardous.
b. E/P toxic metals.

Each waste stream will be sampled on a random basis, at least once yearly, but no more than three(3) times/year, based on the following factors;

a. Volume of material received on a monthly basis
b. History of waste stream with respect to consistency; ie., has the waste stream been received with different treatment chemistry than the original sample submitted for treatment process evaluation and analysis.

ADDENDUM

Unacceptable Products

East Coast Chemical Disposal, Inc., has long range plans for the acceptance and treatment of all types of waste products. As stated on page B-3a, "This list is constantly reviewed, based on current literature and is updated and/or changed as necessary."-Constant delisting and listing at present-.

As acceptable and cost-effective treatment regimes are developed and approved by regulating agencies, then ECCD will offer treatment services.

Proceedures for Unloading Waste Products

Unloading at any one of four(4) receiving docks will be done as follows;

1. Drum materials will be examined for leakage, proper labeling and packaging. Truck to remain until load is accepted.
2. Random sampling at the receiving area to determine manifest defects, if any.
3. Individual containers moved to proper storage area for sampling.
4. Production and processing for shipment.
5. Moved to shipping area.

Table 1

TEST PARAMETERS AND RATIONALE FOR SELECTION

HAZARDOUS Waste	PARAMETER(S)	RATIONALE
D001	Flash Point	Waste is characteristically hazardous due to ignitability
D004	EP Toxicity (As)	Waste is characteristically hazardous due to EP toxicity
D005	EP Toxicity (Ba)	Same as D004
D006	EP Toxicity (Ca)	Same as D004
D007	EP Toxicity (Co)	Same as D004
D008	EP Toxicity (Pb)	Same as D004
D009	EP Toxicity (Hs)	Same as D004
D010	EP Toxicity (Se)	Same as D004
D011	EP Toxicity (As)	Same as D004
D012	EP Toxicity (endrin)	Same as D004
D013	EP Toxicity (lindane)	Same as D004
D014	EP Toxicity (methoxychlor)	Same as D004
D015	EP Toxicity (toxaphene)	Same as D004
D016	EP Toxicity (Z, 4-D)	Same as D004
D017	EP Toxicity (Z, 4, 5-TP)	Same as D004
K010	GC Analysis pH Flash Point	Waste is a listed hazardous waste from a specific source because of its toxicity, flammability, and corrosivity (chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid)
K013	GC Analysis Flash Point pH	Waste is a listed hazardous waste from a specific source because of its toxicity, flammability, and corrosivity (acrylonitrile, acetonitrile, hydrocyanic acid)

HAZARDOUS WASTE	PARAMETER(S)	RATIONALE
0002	pH	Waste is characteristically hazardous due to corrosivity
0003	Flash point	Waste is a listed hazardous waste from non-specific sources because of its ignitability
0004	GC analysis	Waste is a listed hazardous waste from non-specific sources because of its toxicity (cresols, cresylic acid, nitrobenzene)
0005	Flash point GC analysis	Waste is a listed hazardous waste from non-specific sources because of its ignitability and toxicity (toluene, methyl, ethyl ketone, carbon disulfide, isobutanol, pyridine)

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

ZARDOUS ste	PARAMETERS	RATIONAL
07	Total and free cyanides reactivity	Waste is reactive and toxic (total and free cyanides)
08	Total and free cyanides reactivity	Same as F007
09	Total and free cyanides Reactivity	Same as F007
10-F012	Total and free cyanides reactivity	Same as F007
19	E/P toxicity Total and free cyanides	Waste may be E/P toxic(D007-chromium) and may be toxic (cyanides).
ecific Sources		
01	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (Appendix VII compounds for K001)
02-K003 05	E/P toxicity (Cr, Pb)	The waste is listed hazardous waste from a specific source because of its E/P toxicity (chromium and lead).
04-K006	E/P toxicity (Cr)	Waste is a listed hazardous waste from a specific source because of its E/P toxicity (Chromium)

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

ZARDOUS ste	PARAMETER(S)	RATIONALE
07	E/P Toxicity (Cr) Total and free cyanides	Waste is a listed hazardous waste from a specific source because of its E/P toxicity (Chromium) and presence of complex cyanides.
	E/P toxicity (Cr)	Same as K004
09	G/C analysis pH Flash point	A listed hazardous waste from a specific source because of its toxicity (See Appendix VII for K009 In addition waste may be characteristically hazardous (Corrosive-D002 or Ignitable-D001)
11	G/C analysis Total cyanides Reactivity	A listed hazardous waste from a specific source because of its toxicity(acrylonitrile,autonitrile, and HCN and reactivity (HCN).
	G/C analysis	A listed hazardous waste from a specific source because of its toxicity(acetonitrile,acrylamide).
15	G/C analysis Flash Point	A listed hazardous waste from a specific source-toxic-(bentylachlonide,chlorobentene, toluene,benzotrichloride) (D001-ignitable)
16	G/C analysis	Listed as a hazardous waste from a specific source,is toxic (hexachlorobenzene,hexachlorobutadiene, carbontetrachloride,hexochloroethylene, perchloroethylene)

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

\ZARDOUS ıste	PARAMETER(S)	RATIONALE
)17	G/C analysis	A listed hazardous waste from a specific source because of its toxicity(epichloohydrin,chloro-ethers,trichloropropane,diehloro-propanols)
)18	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (1,2-di-chlors ethane, trichlors ethylene, hexachlorobutadiene, hexachlous benzene)
19	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (chlor-inated compounds listed in Appendix VII for K019
20	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (chlorinated compounds listed in Appendix VII for K020
21	E/P leachate G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (anti-mony, carbontetrachloride, chlors form)

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

HAZARDOUS Waste	PARAMETER (S)	RATIONALE
K022	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (phenol, PAH)
K023	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (phthalic anhydride, maleic anhydride)
K024	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (phthalic anlydride; PAH; napthoqunone)
K093	G/C analysis	Same as K023, above
K094	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (phthalic anlydride
K025	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (m-dinitrobenzene, 2, 4-dinitrotolvene)
K026	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (paraidelyde, pyridine 2-picoline)
K027	G/C analysis	Waste is a listed hazardous waste from a specific source because of i toxicity (TOI, tolvene-2,4-diamine)

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

AZARDOUS aste	PARAMETER (S)	RATIONALE
028	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (chlorinated compounds as described in Appendix VII for K028
)	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (chlorinated compounds as described in Appendix VII for K029
5	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (chlorinated solvents)
096	G/C analysis	Same as K095, above
030	G/C analysis	Same as K095, above
083	G/C analysis	Waste is a listed hazardous waste from a specific source because of it toxicity (aniline, diphenylamine, nitrobenzene, phenylenediamine)
103	G/C analysis	Same as K083
104	G/C analysis	Waste is a listed hazardous waste from a specific source because of i toxicity (aniline, benzene, diphenylamine, nitrobenzene, phenylenediaine)

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

HAZARDOUS Waste	PARAMETER (S)	RATIONALE
085	G/C analysis Flash point	Waste is a listed hazardous waste from a specific source because of i toxicity (Appendix VII for K085) and may be characteristically hazardous (D001-Ignitable)
105	G/C analysis Flash point	Waste is a listed hazardous waste from a specific source because of its toxicity (Appendix VII for K105 and may be characteristically hazardous (D001-Ignitable)
071	E/P Toxicity (Hg)	Waste is a listed hazardous waste from a specific source because of its toxicity (D009-mercury)
073	G/C analysis	Waste is a listed hazardous waste from a specific source because of i toxicity (Appendix VII components for K073
106	E/P toxicity (Hg)	Same as K071
031	E/P toxicity (As)	Waste is a listed hazardous waste from a specific source because of its toxicity (D004-Arsenic)
032	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (hexachlorocyclo-pendadiene - HCCPD)
33	G/C analysis	Same as K032

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

AZARDOUS aste	PARAMETER (S)	RATIONALE
)34	G/C analysis	Same as K032
)37	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (chlordane, heptachlor)
)35	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (Appendix VII component for K035
)36	G/C analysis Flash point	Waste is a listed hazardous waste from a specific source because of its toxicity (Appendix VII component for K036) Waste may also be characteristically hazardous (D001-ignitable)
)37	G/C analysis Flash point	Same as K036
)38	G/C analysis	Waste is a listed hazardous waste from a specific source because of it toxicity (Appendix VII components for K038)
)39	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (Appendix VII components for K039
,10	G/C analysis	Same as K038

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

AZARDOUS aste	PARAMETER (S)	RATIONALE
041	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (toxaphene)
}	G/C analysis	Same as K041
042	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (hexachlorsbenzene, o-dichlorobenzene)
043	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (2,4;2,6-dichloro-phenol; 2,4,6-lrichlorophend)
099	G/C analysis	Same as K043
048	E/P Toxicity	Waste is a listed hazardous waste from a specific source because of it toxicity (Pb, Cr)
049	E/P Toxicity	Same as K048
050	E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (Cr)
051	E/P Toxicity	Same as K048

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

HAZARDOUS Waste	PARAMETER (S)	RATIONALE
K052	E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (Pb)
K061	E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (Pb, Cd, Cr + 6)
K062	PH E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (Cr, Pb) and may be characteristically hazardous (D002-Corrosive)
K069	E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (Cr, Pb, Cd)
K100	E/P Toxicity	Waste is a listed hazardous waste from a specific source because it is toxic (Cr, Pb, Cd)
K084	E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (As)
K101	E/P Toxicity	Same as K084
K102	E/P Toxicity	Same as K084

Table 1 Continued

TEST PARAMETERS AND RATIONALE FOR SELECTION

;ARDOUS ;te	PARAMETER (S)	RATIONALE
;6	E/P Toxicity	Same as K048
;0	Total cyanides G/C analysis E/P Toxicity	Waste is a listed hazardous waste from a specific source because of its toxicity (cyanides, napthalene, phenolics, arsenic)
;7	G/C analysis	Waste is a listed hazardous waste from a specific source because of its toxicity (phenol,napthalene)

HAZARDOUS Waste	PARAMETER(S)	RATIONALE
P063	free and total cyanide pH	(see P011) - hydrocyanic acid
P074	free and total cyanide	(see P011) - nickel cyanide
P089	GC Analysis	(see P011) - parathion
P090	GC Analysis	(see P011) - pentachlorophenol
P094	GC Analysis	(see P011) - phorate
P098	free and total cyanide	(see P011) - potassium cyanide
P099	free and total cyanide EP Toxicity	(see P011) - potassium silver cyanide
P104	free and total cyanide EP Toxicity	(see P011) - silver cyanide
P106	free and total cyanide	(see P011) - sodium cyanide
P110	EP Toxicity	(see P011) - tetraethyl lead
P115	Toxicity	(see P011) - thallium (I)sulfate
P120	Toxicity	(see P011) - vanadium pentoxide
P121	free and total cyanide	(see P011) - zinc cyanide
U001	GC Analysis	Waste is a toxic waste (T) resulting from commercial chemical products or manufacturing chemical intermediates - acetaldehyde
U002	GC Analysis Flash Point	(see U001) - acetone
U013	Microscopy	(see U001) - asbestos
U019	GC Analysis	(see U001) - benzene
U031	GC Analysis Flash Point	(see U001) - u-butyl alcohol
U032	EP Toxicity	(see U001) - calcium chromate
U036	GC Analysis	(see U001) - chlordane

HAZARDOUS Waste	PARAMETER(S)	RATIONALE
U037	GC Analysis	(see U001) - chlorobenzene
U043	GC Analysis	(see U001) - chloroethene
U044	GC Analysis Flash Point	(see U001) - chloroform
U045	GC Analysis Flash Point	(see U001) - chloromethane
U048	GC Analysis	(see U001) - z-chlorophenol
U051	GC Analysis	(see U001) - cresote
'052	GC Analysis	(see U001) - cresols
U054	GC Analysis pH	(see U001) - cresylic acid
U056	GC Analysis Flash Point	(see U001) - cyclohexane
U061	GC Analysis	(see U001) - DDT
U065	GC Analysis	(see U001) - dilromochloromethane
U067	GC Analysis	(see U001) - 1,2 - dilromoethane
U068	GC Analysis	(see U001) - dilromomethane
U070	GC Analysis	(see U001) - 1,2 - dichlorobenzene
U071	GC Analysis	(see U001) - 1,3 - dichlorobenzene
U072	GC Analysis	(see U001) - 1,4 - dichlorobenzene
U075	GC Analysis	(see U001) - dichlorodifluoromethan
U076	GC Analysis	(see U001) - 1,1 - dichloroethane
U077	GC Analysis	(see U001) - 1,2 - dichloroethane
U080	GC Analysis	(see U001) - dichloromethane
U081	GC Analysis	(see U001) - 2,4 - dichlorophenol
U082	GC Analysis	(see U001) - 2,6 - dichlorophenol
U112	GC Analysis Flash Point	(see U001) - ethyl acetate

HAZARDOUS Waste	PARAMETER(S)	RATIONALE
U121	GC Analysis	(see U001) - fluorotrichloromethane
U122	GC Analysis	(see U001) - formaldehyde
U123	GC Analysis pH	(see U001) - formic acid
U127	GC Analysis	(see U001) - hexachlorobenzene
U134	pH	(see U001) - hydrofluoric acid
U140	GC Analysis	(see U001) - isobutyl alcohol
U144	EP Toxicity	(see U001) - lead acetate
U145	EP Toxicity	(see U001) - lead phosphate
U151	EP Toxicity	(see U001) - mercury
U154	GC Analysis	(see U001) - methanol
U159	GC Analysis Flash Point	(see U001) - methyl ethyl ketone
U161	GC Analysis	(see U001) - methyl isobutyl ketone
U165	GC Analysis	(see U001) - naphthalene
U182	GC Analysis	(see U001) - paraldehyde
188	GC Analysis	(see U001) - phenol
U204	EP Toxicity pH	(see U001) - selenious acid
U208	GC Analysis	(see U001) - 1,1,1,2 - tetrachloroethane
U209	GC Analysis	(see U001) - 1,1,2,2 - tetrachloroethane
U210	GC Analysis	(see U001) - tetrachloroethene
U211	GC Analysis	(see U001) - tetrachloromethane
U213	GC Analysis Flash Point	(see U001) - tetrahydrofuran
U214	Toxicity	(see U001) - thallium (I) acetate

HAZARDOUS Waste	PARAMETER(S)	RATIONALE
U215	Toxicity	(see U001) - thallium (I)carbonate
U216	Toxicity	(see U001) - thallium (I)chloride
U217	Toxicity	(see U001) - thallium (I)nitrate
U220	GC Analysis	(see U001) - toluene
U224	GC Analysis	(see U001) - toxaphene
U225	GC Analysis	(see U001) - tribromomethane
U226	GC Analysis	(see U001) - 1,1,1 - trichloroethane
U227	GC Analysis	(see U001) - 1,1,2 - trichloroethane trichloroethane
U228	GC Analysis	(see U001) - trichloroethene
U229	GC Analysis	(see U001) - trichlorofluromethane
U230	GC Analysis	(see U001) - 2,4,5 - trichlorophenol
U231	GC Analysis	(see U001) - 2,4,6 - trichlorophenol
U233	GC Analysis pH	(see U001) - 2,4,5 - trichloro-phenoxy - propionic acid alpha
U238	GC Analysis	(see U001) - urethane
U239	GC Analysis	(see U001) - xylene

Table 2

PARAMETERS & TEST METHODS

AZARDOUS aste	PARAMETER	TEST METHOD	REFERENCE
)01	Flash point	Pensky Martens closed cup tester	Method 1010-SW846
)02	Corrosivity	Electrometric pH	Method 9040-SW846
	E/P Toxicity	E/P Toxicity test procedure	Method 1310-SW846
)04	Arsenic	A/A Hollow Graphie Furnace	Method 7060-SW846
)05	Barium	A/A direct aspiration	Method 7080-SW846
)06	Cadmium	A/A direct aspiration	Method 7130-SW846
)07	Chromium	A/A direct aspiration	Method 7190-SW846
)08	Lead	A/A Hollow Graphite furnace	Method 7421-SW846
)09	Mercury	A/A Cold vapor technique	Method 7470-SW846
)10	Selenium	A/A Hollow Graphite Furnace	Method 7740-SW846
)11	Silver	A/A direct aspiration	Method 7760-SW846
2	Endrin	G/C analysis	Method 8080-SW846
13	Lindane	G/C analysis	Method 8080-SW846
)14	Methexychlor	G/C analysis	Method 8080-SW846
)15	Toxaphene	G/C analysis	Method 8080-SW846
)16	2, 4-D	G/C analysis	Method 8150-SW846
)17	2,4,5-TP(Silvex)	G/C analysis	Method 8150-SW846
es from Non-Specific Sources			
)01	Flash point	Pensky Martens closed cup tester	Method 1010-SW846
	G/C analysis	Volatile chlorinated hydrocarbons	Method 8010-SW846
02	Flash point	Pensky Martens closed cup tester	Method 1010-SW846

Table 2

PARAMETERS & TEST METHODS

HAZARDOUS WASTE	PARAMETER	TEST METHOD	REFERENCE
F003	Flashpoint	Pensky Martens closed cup tester	Method 1010-SW846
	GC Analysis	Volatile chlorinated hydrocarbons	Method 8010-SW846
		Volatile organics (non-chlorinated)	Method S8015;8020 -SW846
F004	Flashpoint	Pensky Martens closed cup tester	Method 1010-SW846
	GC Analysis	Phenols	Method 8040-SW846
		Nitroaromatics	Method 8090-SW846
F005	Flashpoint	Pensky Martens closed cup tester	Method 1010-SW846
	GC Analysis	Volatile organics (non-chlorinated)	Method S8015-SW846
F006	EP Toxicity	EP Extraction Procedure	Appendix II-SW846 Methods 8.52 & 8.53
		AA Analysis direct aspiration	-SW846
	free and total cyanide	distillation & titration	Method 8.55-SW846
F007	free and total cyanide	distillation & titration	Method 8.55-SW846

Table 2

PARAMETERS AND TEST METHODS

AZARDOUS aste	PARAMETER	TEST METHOD	REFERENCE
008	Total & free cyanides	Same as F007	Same as F007
	Reactivity	Same as F007	Same as F007
009	Total & free cyanides	Same as F007	Same as F007
	Reactivity	Same as F007	Same as F007
010	Total & free cyanide	Same as F007	Same as F007
	Reactivity	Same as F007	Same as F007
011	Total & free cyanide	Same as F007	Same as F007
	Reactivity	Same as F007	Same as F007
012	Total & free cyanide	Same as F007	Same as F007
	Reactivity	Same as F007	Same as F007
019	E/P Toxicity	E/P Toxicity test procedure	Method 1310-SW846
	Chromium	A/A-direct aspiration	Method 7190-SW846
	Total & free cyanides	Distillation & titration	Method 9010-W846
astes from Specific Sources			
001	G/C analysis	Phenois	Method 8040-SW846
		PAH	Method 8100-SW846
002	E/P Toxicity	E/P Toxicity test procedure	Method 1310-SW846
	Chromium	A/A direct aspiration	Method 7190-SW846
	Lead	A/A Hollow graphite furnace	Method 7421-SW846

Table 2

PARAMETERS & TEST METHODS

\ZARDOUS iste	PARAMETER	TEST METHOD	REFERENCE
)03	E/P Toxicity Chromium Lead	Same as K002	Same as K002
)04	E/P Toxicity Chromium	E/P Toxicity test procedure A/A-direct aspiration	Method 1310-SW846 Method 7190-SW846
)05	E/P Toxicity Chromium Lead	Same as K002	Same as K002
5	E/P Toxicity Chromium	Same as K004	Same as K004
07	E/P Toxicity Chromium Total & free cyanides	Same as F019	Same as F019
08	E/P Toxicity Chromium	Same as K004	Same as K004
09	G/C analysis Corrosivity Flash point	Volatile chlorinated hydro carbons Volatile organics (non-chlorinated) Electrometric pH Pensky Martens closed cup tester	Method 8010-SW846 Methods 8015; 8020 SW846 Method 9040-SW846 Method 1010-SW846
10	G/C analysis Corrosivity Flash point	Volatile chlorinated hydro carbons Volatile organics/non-chlorinated) Electranetic pH Pensky Martens closed cup tester	Same as K009

Table 2

PARAMETERS & TEST METHODS

ZARDOUS ste.	PARAMETER	TEST METHOD	REFERENCE
11	G/C analysis Total cyanides Reactivity	Nitriles - G/C Distillation & titration pH swing	Method 8030-SW846 Method 9010-SW846 Section 2.1.3-SW846
13	G/C analysis Total cyanides Reactivity	Same as K011	Same as K011
14	G/C analysis	Nitriles - G/C	Method 8030-SW846
15	G/C analysis	Chlorinated H/C - G/C	Method 8120-SW846
7	G/C analysis	Volatile chlorinated H/C Chlorinated H/C	Method 8010-SW846 Method 8120-SW846
17	G/C analysis	Same as K016	Same as K016
18	G/C analysis	Volatile chlorinated H/C Chlorinated H/C	Method 8010 - SW846 Method 8120 - SW 846
19	G/C analysis	Volatile chlorinated H/C	Method 8010-SW846
20	G/C analysis	Same as K019	Same as K019
21	E/P Toxicity Antimony G/C analysis	E/P toxicity test procedure A/A-Hollow graphite furnace Volatile chlorinated H/C	Method 1310-SW846 Method 7041-SW846 Method 8010-SW846
22	G/C Analysis	Phenols PAH	Method 8040-SW846 Method 8100-SW846
3	G/C analysis	Phthalate esters	Method 8060-SW846

Table 2

PARAMETERS & TEST METHODS

AZARDOUS aste	PARAMETER	TEST METHOD	REFERENCE
024	G/C analysis	Phthalate esters Nitroaromatics & cyclic ketones	Method 8060-SW846 Method 8090-SW846
093	G/C analysis	Same as K023	Same as K023
094	G/C analysis	Same as K023	Same as K023
025	G/C analysis	Nitroaromatics & cyclic ketones	Method 8090-SW846
026	G/C analysis	Nonhalogenated Volatile Organics Nitroaromatics & cyclic ketones	Method 8015-SW846 Method 8090-SW846
027	G/C analysis	Nitroaromatics & cyclic ketones	Method 8090-SW846
028	G/C analysis	Volatile chlorinated H/C	Method 8010-SW846
029	G/C analysis	Same as K028	Same as K028
095	G/C analysis	Halogenated volatile organics	Method 8010-SW846
096	G/C analysis	Same as K095	Same as K095
030	G/C analysis	Halogenated volatile organics Chlorinated hydrocarbons	Method 8010-SW846 Method 8120-SW846
083	G/C analysis	Internal method under development	N/A
103	G/C analysis	Nitroaromatics & cyclic ketones Internal method under development	Method 8090-SW846 N/A
104	G/C analysis	Aromatic volatile H/C Nitroaromatics & cyclic ketones Internal method under development	Method 8020-SW846 Method 8090-SW846 N/A

Table 2

PARAMETERS & TEST METHODS

ZARDOUS ste	PARAMETER	TEST METHOD	REFERENCE
85	G/C analysis	Aromatic volatile H/C	Method 8020-SW846
		Chlorinated hydrocarbons	Method 8120-SW846
	Flash point	Pensky Martens closed cup tester	Method 1310-SW846
05	G/C analysis	Aromatic volatile H/C	Method 8020-SW846
		Chlorinated hydrocarbons	Method 8120-SW846
		Phenois	Method 8040-SW846
	Flash point	Pensky Martens closed cup tester	Method 1310-SW846
71	E/P Toxicity	E/P toxicity test procedure	Method 1310-SW846
	Mercury	A/A-Cold vapor technique	Method 7470-SW846
	G/C analysis	Halogenated volatile organics	Method 8010-SW846
06	E/P Toxicity Mercury	Same as K071	Same as K071
31	E/P Toxicity	E/P Toxicity test procedure	Method 1310-SW846
	Arsenic	A/A-Hollow graphite furnace	Method 7060-SW846
32	G/C analysis	Chlorinated hydrocarbons	Method 8120-SW846
33	G/C analysis	Same as K032	Same as K032
34	G/C analysis	Same as K032	Same as K032
97	G/C analysis	Chlorinated pesticides	Method 8080-SW846
35	G/C analysis	PAH	Method 8100-SW846

Table 2

PARAMETERS & TEST METHODS

AZARDOUS aste	PARAMETER	TEST METHOD	REFERENCE
)50	E/P Toxicity Chromium	E/P toxicity test procedure A/A direct aspiration	Method 1310-SW846 Method 7190-SW846
)51	E/P Toxicity Chromium Lead	Same as K048	Same as K048
)52	E/P Toxicity Lead	E/P Toxicity test procedure A/A-Hollowgraphite furnace	Method 1310-SW846 Method 7421-SW846
)61	E/P Toxicity Lead Cadmium Chromium(hexavalent)	E/P toxicity test procedure A/A-Hollow graphite furnace A/A-direct aspiration Colorimetric	Method 1310-SW846 Method 7421-SW846 Method 7130-SW846 Method 7196-SW846
)62	pH E/P Toxicity Chromium Lead	Electrometric pH E/P toxicity test procedure A/A-direct aspiration A/A-hollow graphite furnace	Method 9040-SW846 Method 1310-SW846 Method 7190-SW846 Method 7421-SW846
[illegible]	E/P Toxicity Chromium Lead Cadmium	E/P toxicity test procedure A/A direct aspiration A/A hollow graphite furnace A/A-direct aspiration	Method 1310-SW846 Method 7190-SW846 Method 7421-SW846 Method 7130-SW846
.00	E/P Toxicity Chromium Lead Cadmium	Same as K069	Same as K069

Table 2

PARAMETERS & TEST METHODS

ZARDOUS ste	PARAMETER	TEST METHOD	REFERENCE
84	E/P Toxicity Arsenic	E/P toxicity test procedure A/A-hollow graphite furnace	Method 1310-SW846 Method 7060-SW846
01	E/P Toxicity Arsenic	Same as K084	Same as K084
02	E/P Toxicity Arsenic	Same as K084	Same as K084
86	E/P Toxicity Chromium Lead	Same as K048	Same as K048
60	Total cyanides G/C analysis E/P Toxicity Arsenic	Dishilation & titration PAH Phenois E/P toxicity test procedure A/A-hollow graphite furnace	Method 9010-SW846 Method 8100-SW846 Method 8040-SW846 Method 1310-SW846 Method 7060-SW846
87	G/C analysis	Phenois PAH	Method 8040-SW846 Method 8100-SW846

Table 2

PARAMETERS & TEST METHODS

HAZARDOUS Waste	PARAMETER	TEST METHOD	REFERENCE
P010	EP Toxicity	(see F006)	(see F006)
		AA	Method 8.51-SW846
	pH	potentiometric	Method 5.2-SW846
P011	EP Toxicity	(same as P010)	(same as P010)
P012	EP Toxicity	(same as P010)	(same as P010)
P013	EP Toxicity	(see F006)	(see F006)
			Method 8.51-SW846
	pH	(same as P010)	(same as P010)
P021	free and total cyanide	(same as F007)	(same as F007)
P029	free and total cyanide	(same as F007)	(same as F007)
P030	free and total cyanide	(same as F007)	(same as F007)
P051	GC Analysis	Organochlorine pesticides & PCB's	Method 8.08-SW846
P055	free and total cyanide	(same as F007)	(same as F007)
59	GC Analysis	(same as P051)	(same at P051)
P063	free and total cyanide	(same as F007)	(same as F007)
	pH	(same as P010)	(same as P010)
P074	free and total cyanide	(same as F007)	(same as F007)

HAZARDOUS WASTE	PARAMETER	TEST METHOD	REFERENCE
P089	GC Analysis	Organophosphorus pesticides	Method 8.22-SW846
P090	GC Analysis	Phenols	Method 8.04-SW846
P094	GC Analysis	(same as P089)	(same as P089)
P098	free and total cyanide	(same as F007)	(same as F007)
P099	free and total cyanide EP Toxicity	(same as F007) (same as F006) AA-direct	(same as F007) (same as F006) Method 8.60-SW846
P104	free and total cyanide EP Toxicity	(same as P099) (same as P099)	(same as P099) (same as P099)
P106	free and total cyanide	(same as F007)	(same as F007)
P110	EP Toxicity	(same as F006) AA-direct	(same as F006) Method 8.56-SW846
P115	Toxicity	AA-direct	Method 279.1-EPA600
P120	Toxicity	AA-direct	Method 286.1-EPA600
P121	free and total cyanide	(same as F007)	(same as F007)
U001	GC Analysis	Volatile organics general	Method 8.01-SW846
U002	GC Analysis Flash Point	(same as U001) Pensky Martens closed cup	(same as U001) ASTM D-93-79
U013	Microscopy	method under development	
U019	GC Analysis	volatile aromatics	Method 8.02-SW846
U031	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U032	EP Toxicity	(same as F007) AA-direct	(same as F007) Method 8.54-SW846

HAZARDOUS Waste	PARAMETER	TEST METHOD	REFERENCE
U036	GC Analysis	(same as P051)	(same as P051)
U037	GC Analysis	(same as U019)	(same as U019)
U043	GC Analysis	(same as U001)	(same as U001)
U044	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U045	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U048	GC Analysis	(same as P090)	(same as P090)
U051	GC Analysis	Polynuclear aromatic hydrocarbon	Method 8.10-SW846
U052	GC Analysis	(same as P909)	(same as P090)
U054	GC Analysis pH	(same as P090) (same as P010)	(same as P090) (same as P010)
U056	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U061	GC Analysis	(same as P051)	(same as P051)
U065	GC Analysis	(same as U001)	(same as U001)
U067	GC Analysis	(same as U001)	(same as U001)
U068	GC Analysis	(same as U001)	(same as U001)
U070	GC Analysis	(same as U019)	(same as U019)
U071	GC Analysis	(same as U019)	(same as U019)
U072	GC Analysis	(same as U019)	(same as U019)
U075	GC Analysis	(same as U001)	(same as U001)
U076	GC Analysis	(same as U001)	(same as U001)
U077	GC Analysis	(same as U001)	(same as U001)
U080	GC Analysis	(same as U001)	(same as U001)
U081	GC Analysis	(same as P090)	(same as P090)

HAZARDOUS WAste	PARAMETER	TEST METHOD	REFERENCE
U082	GC Analysis	(same as P090)	(same as P090)
U112	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U121	GC Analysis	(same as U001)	(same as U001)
U122	GC Analysis	(same as U001)	(same as U001)
U123	GC Analysis pH	Semi-volatile organics (same as P010)	Method 8.06-SW846 (same as P010)
U127	GC Analysis	Semi-volatile chlorinated hydrocarbons	Method 8.12-SW846
U134	pH	(same as P010)	(same as P010)
U140	GC Analysis	(same as U001)	(same as U001)
U144	EP Toxicity	(same as P110)	(same as P110)
U145	EP Toxicity	(same as P110)	(same as P110)
U151	EP Toxicity	(same as F007) AA-cold vapor	(same as F007) Method 8.57-SW846
U154	GC Analysis	(same as U001)	(same as U001)
U159	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U161	GC Analysis	(same as U001)	(same as U001)
U165	GC Analysis	(same as U051)	(same as U051)
U182	GC Analysis	(same as U001)	(same as U001)
U188	GC Analysis	(same as P090)	(same as P090)
U204	EP Toxicity pH	(same as F007) AA-digestion (same as P010)	(same as F007) Method 8.59-SW846 (same as P010)
U208	GC Analysis	(same as U001)	(same as U001)
U209	GC Analysis	(same as U001)	(same as U001)

HAZARDOUS Waste	PARAMETER	TEST METHOD	REFERENCE
U210	GC Analysis	(same as U001)	(same as U001)
U211	GC Analysis	(same as U001)	(same as U001)
U213	GC Analysis Flash Point	(same as U001) (same as U002)	(same as U001) (same as U002)
U214	Toxicity	(same as P115)	(same as P115)
U215	Toxicity	(same as P115)	(same as P115)
U216	Toxicity	(same as P115)	(same as P115)
U217	Toxicity	(same as P115)	(same as P115)
U220	GC Analysis	(same as U019)	(same as U019)
U224	GC Analysis	(same as P051)	(same as P051)
U225	GC Analysis	(same as U001)	(same as U001)
U226	GC Analysis	(same as U001)	(same as U001)
U227	GC Analysis	(same as U001)	(same as U001)
U228	GC Analysis	(same as U001)	(same as U001)
U229	GC Analysis	(same as U001)	(same as U001)
U230	GC Analysis	(same as P090)	(same as P090)
J231	GC Analysis	(same as P090)	(same as P090)
U233	GC Analysis pH	(same as P051) (same as P010)	(same as P051) (same as P010)
U238	GC Analysis	(same as U123)	(same as U123)
U239	GC Analysis	(same as U019)	(same as U019)

TABLE 265.16 - 1

PERSONAL EMERGENCY EQUIPMENT

Safety glasses

Hard Hat - Safety Cap

Chemical resistant gloves

Coveralls

Respirators or oxygen masks

Safety shoes or boots (with non-slip soles)

TABLE 265.16-2

GENERAL EMERGENCY SERVICES

Delaware County Civil Defense	Ed. Truitt	891-4118
The Marcus Hook Fire Department	Robt. Kersey, Chief	494-9707
Viscose Fire Company (On Site)	Wm. Hughes, Chief	494-9922
Ambulance Service		565-4545

Hospital Selected: in order of priority

1. Request of Patient

2. Request of Emergency Coordinator, East Coast Chemical Disposal, Inc.

3. General Cases, no hospital specified
   Sacred Heart Hospital, 9th & Holland, Chester
   494-0721

4. Burn Center
   Crozer-Chester Hospital, 15th & Upland, Upland
   447-2000

TABLE 265.16 - 3

TRAINING INFORMATION

TO BE DISTRIBUTED TO ALL PERSONNEL

* Response guidelines in event of fire or explosion.
* Response guidelines in case of a release of hazardous waste.
* Evacuation plan for facility, organized by department.
* Up to date list of personnel with CPR and first aid training.
* Guidelines for response to groundwater or surface water contamination due to release of hazardous waste.
* Guidelines in event of a total shutdown of facility operations.
* Basis information on alarm and communications systems.
* List of key emergency phone numbers.

EAST COAST CHEMICAL DISPOSAL, INC.

CONTACT INTERVIEW QUESTIONNAIRE

APPENDIX 1

General

Generator Name

Facility Address _____ Generator EPA # _____

_____ _____

Business Contact: _____

Title _____ Phone _____

Technical Contact: _____

Title _____ Phone _____

Waste Description

1. Generator's common name for this waste stream.

_____

2. Process Generating Waste: _____

_____

3. Generation Rate Frequency

4 Physical Properties (Circle appropriate blocks)

1. Physical State at 70°F:

Solid | Semi-Solid | Liquid | Sludge | Gas

2. Specific Gravity _____

3. Flash Point _____ °F Closed Cup | Open Cup

4. Viscosity: Low | Medium | High

5. pH (Indicate Range) _____

6. Phase / Layering (For liquids only)

NONE | BILAYERED | MULTILAYERED

Top _____ % Others _____ %

Bottom _____ %. _____ %

7. Solids: ☐ By Weight ☐ By Volume

Total _____ % Dissolved _____ % Suspended _____ %

8. Solvents & Oils Only

BTU/ Lb _____ Ash Content @ 650°C _____

9. Organo-Chlorine: O-TR | ◄1% | ►1%

10. Sulfur: O-TR | ◄1% | ►1%

5. Chemical Composition

Analysis (Account for 100%)	Constituent	Range
1. _____	Water	
2. _____	Major	
3. _____	Minor	

EAST COAST CHEMICAL DISPOSAL, INC.

PA DER MODULE 1

APPENDIX 2

Waste Generator:
Waste Identification:
W/C Lab Code:

Test Parameter	Total Analysis	E1P Leachate
Total Residue		
Total Dissolved Solids		
Total Volatile Solids		
pH		
Cyanides		
Oil and Grease		
Ammonia N		
Phenol		
Arsenic		
Antimony		
Barium		
Cadmium		
Chromium		
Lead		
Mercury		
Nickel		
Selenium		
Silver		
Copper		
Molybdenum		
Zinc		
Heating Value		
Ignitability		
Corrosivity		
Reactivity		
Total Organic Halogens		
COD		
TOC		

Analysis completed by:

Date:

ER-SWM-14: Rev. 4/81

DATE PREPARED
DATE REVISED

PA DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF SOLID WASTE MANAGEMENT
MODULE 1

DEPARTMENT USE ONLY

REQUEST FOR APPROVAL TO TREAT, STORE, OR DISPOSE OF A HAZARDOUS OR RESIDUAL WASTE STREAM

SEE INSTRUCTIONS BEFORE COMPLETING THIS FORM

I. GENERAL INFORMATION (must be completed by TSD facility)

A. Treatment, Storage, or Disposal Site

1. Name of facility _____

Address _____

Municipality _____ County _____

2. Identification number (if applicable) ☐☐☐☐☐☐☐☐☐☐☐☐

3. Solid waste permit number(s) for treatment, storage or disposal facility to be utilized

_____

4. Facility contact person

Name _____ Title _____

Phone no. _____

B. Generator of the Waste

1. Name of company _____

Mailing address _____

Location of site if different
from mailing address _____

Municipality _____ County _____

2. If a subsidiary, name
of parent co. _____

3. Identification number (if applicable) ☐☐☐☐☐☐☐☐☐☐☐☐

4. Company contact person

Name _____ title _____

Phone no. _____

DATE PREPARED
DATE REVISED

DEPARTMENT USE ONLY

II. WASTE DESCRIPTION (Must be completed by Generator)

A. General Properties

1. pH range _____ to _____ (based on past analyses or knowledge)

2. Physical state:

a. ☐ liquid (less than 20% solids by dry wt. or flowable)

b. ☐ gas (ambient temperature and pressure)

c. ☐ solid (equal to or greater than 20% by dry wt. and non-flowable)

d. ☐ Check here if c. above was checked and waste contains free liquids.

3. Physical appearance:

Color _____ Odor _____

Number of solid or liquid phases of separation _____

Describe each phase of separation

4. U.S. DOT proper shipping name UN/NA number, and hazard class (if applicable):

5. Typical volume of waste to be shipped to treatment storage or disposal facility:

a. Monthly _____ gal., tons (circle one)

b. Annually _____ gal., tons (circle one)

6. Treatment or disposal frequency: _____ times per year; ☐ one time

7. Current volume to be shipped to treatment storage or disposal facility _____ gal., tons (circle one)

8. a. Is the waste a hazardous waste as fined in 75.261? ☐ Yes ☐ No

b. If yes, describe the hazardous waste according to its description and hazardous waste number in 75.261.

9. Has the waste been delisted as a hazardous waste by DER? ☐ Yes ☐ No ☐ N/A
If yes or N/A, check the appropriate box(es) in Item 10.

DATE PREPARED
DATE REVISED

DEPARTMENT USE ONLY

10. Is the waste a residual waste or a delisted hazardous waste? ☐ Yes ☐ No
If yes, check the following box(es) as applicable:

☐	discarded commercial chemical product	☐	process waste
☐	tank bottom		
☐	off-specification species	☐	infectious waste
		☐	baghouse dust
☐	manufacturing chemical intermediate	☐	wastewater treatment plan residue (industrial)
☐	still bottom		
☐	spent catalyst	☐	wastewater treatment plant residue (sewage)
☐	flyash	☐	water treatment plant residue
☐	bottom ash	☐	incinerator residue
		☐	acid mine drainage treatment sludge
☐	slag	☐	spill residue
☐	foundry sand		
☐	SO_2 scrubber sludge	☐	other (specify) _____

B. Chemical Analyses — *Please attach the following:*

1. The results of the total analysis of the waste as described in the instructions.

2. The results of the leaching tests as described in the instructions and the leaching method.

3. A description of the sampling method.

4. The range of concentrations of the constituents based on knowledge or past analyses.

C. Process Description and Schematic — *Please attach the following:*

1. The substantiation for a confidentiality claim as described in the instructions, if portions of the information you have submitted are confidential.

2. A detailed description of the manufacturing and/or pollution control processes producing the hazardous or residual waste as specified in the instructions.

3. A schematic of the manufacturing and/or pollution control processes producing the hazardous or residual waste as specified in the instructions.

III. Liner Compatibility Evaluation (must be completed by TSD facility)

Attach the results of the liner compatibility evaluation or supporting data as specified in the instructions.

DATE PREPARED
DATE REVISED

DEPARTMENT USE ONLY

IV. PROPOSED TREATMENT, STORAGE, AND/OR DISPOSAL METHOD (must be completed by TSD facility. Use additional sheets if necessary.)

A. Proposed Treatment Method

B. Proposed Storage Method and Length of Storage

C. Proposed Disposal Method

V. ALTERNATIVES TO PROPOSED TREATMENT AND/OR DISPOSAL METHOD (must be completed by generator. Use additional sheets if necessary.)

A. What Other Treatment, Disposal, Recycle, Reuse, or Reclamation Method(s) Can be Used? Briefly describe viable alternatives to your proposal.

B. Why was the Treatment and/or Disposal Method in Section IV Chosen?

DATE PREPARED
DATE REVISED

FOR DEPARTMENT USE ONLY

VI. CERTIFICATION OF GENERATOR

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name of Responsible Official _____ Title _____

Signature _____ Date _____

Taken, sworn and subscribed before me, this

NOTARY SEAL

_____ day of _____ A.D. 19 ____

_____

_____

VII. CERTIFICATION OF REGISTERED PROFESSIONAL ENGINEER FOR TREATMENT STORAGE AND/OR DISPOSAL FACILITY

This is to certify that I have personally reviewed all engineering information contained in the accompanying modules, drawings, specifications, and other documents which are part of this application and that I have found it to be of good engineering quality, true and correct, and is in conformance with the requirements of the Department of Environmental Resources, and it does not, to the best of my knowledge, withhold information that is pertinent to a determination of compliance with the requirements of the Department.

NOTICE: It is an offense under Pennsylvania Crimes Code to affirm a false statement in documents submitted to the Department.

Name _____

Signature _____

Date _____

Address _____

_____

Phone No. _____

SEAL OF PA REGISTERED PROFESSIONAL ENGINEER

EAST COAST CHEMICAL DISPOSAL, INC.

PERSONNEL TRAINING PROGRAM

LESSON NO. 1

EMERGENCY RESPONSE IN EVENT

OF FIRE OR EXPLOSION

Classroom instruction time 1-1/2 hours
Question and answer session 15 minutes
Testing time 15 minutes

Coverage: CFR 40-Sec. 264-56

TOPICS DISCUSSED:

A. Subpart D Section 265.50 through CFR 40-265.57.
   1. General discussion and coverage of subpart D.

B. Overall coverage of types of fires and kinds of equipment pertaining to and relating to our facility operation.

I. Three types of fires are wood, electrical, and chemical
   A. A wood fire is classified as combustible.
      1. To control: Use water to quench or cool fire. A dry powder chemical may also be used effectively.

   B. A chemical fire is caused from vapor air mixtures over flammable liquids igniting.
      1. To control: Use dry chemical powder (preferred), also can use foam, vapor liquid, or water fog spray depending on circumstances.

   C. Electrical fires usually start through short circuiting or overload on line, etc.
      1. To control: Use only non-conductive dry chemicals or carbon dioxide.

II. Flammable Liquids: The Four Characteristics
   A. Fire point - lowest temperature that a flammable air vapor mix will ignite without spark or flame.

   B. Flash point - lowest temperature that liquid gives off enough vapors to ignite.

   C. Ignition temperature - temperature that a flammable vapor air mix will burn without ignition.

   D. Flammable or explosive range - the range between the smallest and largest amount of vapor in a given quantity of air which will explode or burn when ignited.

III. Classification
   A. The classification (properly) of fire is of vital importance as it determines the way the fire must be put out.

IV. Elements
   A. There are three (3) elements needed to make a fire burn. They are:
      1. Heat - to stop fire remove the heat.
      2. Fuel - to stop fire remove the fuel.
      3. Oxygen - to stop fire remove the oxygen or stop the reaction.

V. Prevention
   A. An effective in-plant fire protection plan depends two (2) things. They are:
      1. Knowledgeable personnel.
      2. The correct and sufficient amount of fire fighting equipment (CFR 264.32).

VI. Instructions
   A. The proper way to use dry powder extinguishers.

   B. In event of fire, take action as prescribed (CFR 40-264.56) in company emergency response program.

   C. Learn how and when to use intercom for emergency.

   D. Who to call? Fire department first? Coordinater first?

   E. How to identify characteristics of fire and type and danger involved.

   F. What's involved? Drums, tanks, equipment, electricity? Or solvent spill?

   G. Should emergency switches (electric) be shut off?

Instructor_____Date_____

Employee's name_____Grade_____

Job classification_____

1. What is the most important thing to remember in case of a spill or release of hazardous waste?

2. What action do you take if a tanker overflows during loading operations?

3. Name the emergency coordinator for response.

4. Do you need to manifest any earth (soil) that has been contaminated from a spill and removed?

5. In event of a spill is it necessary to shut-off all ignition sources.

6. What type of personal safety equipment is used when cleaning up a spill?

7. If you had to evacuate would you be able to do so without indecision?

8. Where is the closest phone in relationship to your work area?

9. Name 3 kinds of flammable solvents.

10. What is the name of the person in your area with C.P.R. and Red Cross training?

11. Should you fill out a spill report for five (5) gallons or less spilled?

12. Are our emergency portable pumps explosion proof?

13. Name three (3) actions needed for an in-plant emergency response for a release of hazardous waste, e.g. a drum of flammable liquid ruptures while loading.

14. What happens when a halogenated solvent comes in contact with open flame?

15. Are vapors harmful?

16. Approximately how much liquid can an absorbent (hazorb) bag soak up?

17. What method do we use as an alarm for emergency response?

18. Where is the closest exit from your work area?

19. What is meant by the character of the release?

20. If you had a spill or release of hazardous waste while in transit, which one of these authorities would you call 1st, 2nd, 3rd, etc.
(a) highway patrol, (b) plant emergency coordinator, (c) National Emergency Response Center, (d) fire department.

EAST COAST CHEMICAL DISPOSAL, INC.

PERSONNEL TRAINING PROGRAM

LESSON NO. II

EMERGENCY RESPONSE IN EVENT OF A RELEASE OF A HAZARDOUS WASTE

Classroom instruction time 1-1/2 hours
Question and answer session 15 minutes
Testing time 15 minutes

TOPIC DISCUSSED

General instructions covering CFR-40-264.16:
All employees are required to become familiar with and to learn the location of all in-plant emergency equipment, e.g. shovels, hoes, sand, soda ash, pumps, hoses, fire extinguishers, absorbent bags, etc.

I. Emergency procedure as programmed for our facility in event of a spill or release of a hazardous substance.
   A. Try to identify the character of the spill or release as instructed in lesson number one.

   B. Identify the source, amount and real extent of release.

   C. You must notify your emergency coordinator (via intercom if necessary) and your immediate supervisor.

   D. Stand by with all necessary fire equipment in case of an ignition.

   E. Suspend all operations until spill (as in case of a ruptured drum of flammables) is cleaned up and vapors have dissipated.

   F. Don't allow spill to escape from paved area onto ground area, dike if necessary.

   G. Don't allow any vehicle to operate in close proximity of spill (because of possible ignition) until cleaned up.

   H. If ground has been contaminated follow CFR-40-264.56(g)

   I. When clean-up is finished in regard to reporting if necessary refer to CFR-40-264.33.

   J. All instructions have covered events typical of and pertinent to our operation e.g. flammables, combustibles and halogenated solvents (ORM-As). We also closely follow the emergency guidelines set forth for our facility.

EAST COAST CHEMICAL DISPOSAL, INC.

PERSONNEL TRAINING PROGRAM

LESSON NO. III

NEW FEDERAL & STATE RULES & REGULATIONS FOR THE GENERATOR & TRANSPORTER & TREATMENT STORAGE OR DISPOSAL OF HAZARDOUS WASTE

R.C.R.A.

E.P.A.

D.O.T.

D.E.R.

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF HEALTH

Classroom instruction time 1-1/2 hours
Question and answer session 15 minutes
Testing time 15 minutes

TOPIC: E.P.A. - Environmental Protection Agency
D.O.T. - Department of Transportation
D.E.R. - Department of Environmental Resources

A. Direct impact - CFR 49, Section 172.205(a)
   1. No person may offer for transportation, transport, transfer, or deliver a hazardous waste, unless a hazardous waste manifest is prepared, signed, carried and given as required of that person by this section.

B. Direct impact - CFR 40, Section 262.12
   1. A generator must not treat, store, dispose of, transport or offer for transportation, hazardous waste without having received an EPA identification number from the administrator.

   2. A generator must not offer his hazardous waste to transporters, treatment, storage, or disposal facilities that have not received an identification number from EPA.

With the advent of RCRA (Resource Conservation and Recovery Act - Section 3001 through 3008) and the inception of EPA (CFR 40, 262 - and new DOT rules) we now have adequate tracking of hazardous waste. E.g. (a) identification numbers, (b) manifesting, (c) record keeping, (d) reporting, to give us "the cradle to the grave" tracking system, and any violation of the new rules can bring heavy penalties and fines. RCRA Section 3008.

The accompanying EPA booklet has been our guide in class instruction and we feel we have covered it fairly accurately.

TEST: LESSON NO. III

Instructor_____Date_____

Employee's name_____Grade_____

Job classification_____

1. Who is E.P.A.? Give their full name.
2. Who is D.O.T.? Give their full name.
3. Who is D.E.R.? Give their full name.
4. What is their function?
5. How are they related?
6. Explain the "cradle to the grave theory".
7. What is the minimum fine for a violation?
8. What does T.S.D. stand for?
9. What denotes a T.S.D. facility?
10. How long can you store hazardous waste before you become a storage facility?
11. How many inches of hazardous waste can be left in a 55 gallon container and still be called empty?
12. Is oil from halogenated solvents considered a hazardous waste?
13. Give the definition of a hazardous waste.
14. Name the four characteristics.
15. When is a manifest necessary?
16. When do you become a generator?
17. Is all waste listed in 262-131 hazardous waste?
18. 1000 kilograms represents approximately how many drums?
19. How many pounds is 1000 kilograms?

EAST COAST CHEMICAL DISPOSAL, INC.

PERSONNEL TRAINING PROGRAM

LESSON NO. IV

MANIFESTING A HAZARDOUS WASTE

Classroom instruction time 1-1/2 hours
Question and answer session 15 minutes
Testing time 30 minutes

TOPICS DISCUSSED

Manifesting:

A. Generator

B. Transporter

C. T.S.D. Facility

Subpart B, CFR-40 Section 262.20 through 262.23.

Instruction covering:

A. Newly formulated EPA rules and regulations that went into effect November 20, 1980 (CFR-40-262) and their effect, step-by-step explanation using the State of Pennsylvania hazardous waste manifest as an example.

B. Copies (filled in examples) of new hazardous waste manifests were given to each one present. Also, a copy of hazardous waste labels that will be required on each drum of hazardous waste offered for transportation as per CFR Title 49 Section 172.304 and CFR 40 Section 262.32.

C. Explained that all shipments of hazardous waste in bulk or drums must be accompanied from cradle to grave by a State of Pennsylvania hazardous waste manifest. Explained in detail as to how it should be filled in, by whom it should be signed, and that all four (4) copies must be legible. Signatures should be full name (not initials) and legible.

D. Explained that a small generator is one who generates less than 1,000 kilograms (or 2,205 pounds) of hazardous waste a month, which is approximately four (4) drums and does not need an EPA number but still must fill out a hazardous waste manifest and state he is a small generator in order to transport his waste. The small generator can't keep material longer than 90 days on his premises without becoming a storage facility.

E. Copies go to who and where?
   1. #1 white copy to TSD facility (send copy to DER)

2. #2 pink copy to transporter from TSDF.

3. #3 green copy to generator from TSDF.

4. #4 yellow copy generator keeps (send copy to DER).

F. Who has to fill out manifests? Anyone who transports or offers for transport any amount of hazardous waste.

G. Manifest is also a shipping document.

H. The new hazardous waste labels that must be on each drum and dated and filled out are in addition to and not separate from the previously existing DOT rules and regulations regarding specified containers and correct labeling. We need to make sure we don't transport leakers, that they have proper gaskets, the bungs are tight and tops are clean and free from resin or oil.

I. The DOT hazardous waste label "ORM-E" would be placed on all chlorinated and fluorinated waste solvent as Solvent N.O.S. (chlorinated).

J. Line number 9 on the manifest must be filled in.

K. Empty drums will be picked up under CER Title 49, Section 173.29 on our regular packing slip or invoice and not on the hazardous waste manifest. Trucks will be placarded flammable if the empty drums last contained flammable liquid.

L. Customer must have a manifest for each type of hazardous waste we are to pick up. Example:

2 drums, 50 gallon each, of F-005 Flammable Liquid,N.O.S.
4 drums, 50 gallon each, of D-001 Flammable Liquid,N.O.S.
8 drums, 50 gallon each, of F-002 Solvent,N.O.S. ORM-E

M. Customer has been notified that for safe transportation drums of hazardous waste should (because of vapor pressure) be filled to only 50 gallons maximum. The customer is responsible for holding drums for 24 hours before shipping to check for leaks.

N. If there are any discrepancies noted, such as wrong count, wrong label, leakers, bulged top or bottom, a drum labeled acid or caustic, or if it contains other material, do not change the manifest. The manifest can only be changed by the responsible party who signed it and the change must be initialed by him or her. Please call the office before taking any action. The manifest is also a shipping document.

SECTION #1

Instructor_____Date_____

Employee's name_____Grade_____

Job classification_____

1. What is the reason for a manifest?
2. When do you use it?
3. Are manifests different in different states?
4. If there is a conflict between city, county, or state and federal regulations, what rule applies?
5. How many copies are needed?
6. How are they distributed?
7. How many digits are in transporter numbers (Pennsylvania)?
8. Is it all right to write-in filling out the manifest?
9. Is it all right to abbreviate e.g. M.E.K., I.P.A.?
10. Can you leave some areas like #6, #7, #8 blank if you don't understand?
11. If material were new but just off-spec. what number would you use?
12. When is the optional table (CFR-49-Sec. 172.102) used to identify waste components?
13. What are the four (4) characteristics of hazardous waste?
14. Is the manifest acceptable as a shipping document?
15. What is meant by units?
16. Must a transporter always take the hazardous waste to the T.S.D. facility designated on the (paperwork) manifest?
17. What is the UN/NA number and when does it go into effect?
18. How long can you store hazardous waste without becoming a storage facility?
19. What is the hazard class for mixed chlorinated or fluorinated solvents?
20. What waste number is used for mixed halogenated solvents used in a heated degreaser?

TEST: LESSON NO. IV
(SECTION #2)
MANIFESTING

Instructor_____Date_____

Employee's name_____Grade_____

Job classification_____

Notice to students attending this class:

At the close of the question and answer session, a blank copy of the Commonwealth of Pennsylvania hazardous waste manifest will be given to each student to fill in correctly using the example given and the information therein. These manifests will be graded for accuracy and recorded.

Manifest the following example:

20 drums of hazardous waste lacquer thinner.
Component % approximately:

30% - Methyl Ethyl Ketone

20% - Toluene

16% - Paint Sludge

4% - Water

4% - Acetates

14% - Ketones

6% - Aromatics

6% - Esters

for ficticious names use Mary Doe, John Doe, etc.